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ABSTRACT

This study received the 1973 Delta Pi Epsilon National Research Award for outstanding doctoral research study in business education. The primary purpose of the study was to determine the relationship between student and supervisor evaluations of the teaching effectiveness of general business teachers. Secondary purposes were to identify the qualities of effective general business teachers through a performance specimen checklist and a rating scale, and to describe background factors of teachers judged effective to determine whether there is a commonality of experiences or preparation. It was assumed that students are competent evaluators of teacher effectiveness, that the checklist cited observable behaviors, and that the teacher's immediate supervisor could provide a more reliable rating than other supervisors. The study was limited to a sample of 30 general business teachers in East Tennessee and evaluated teaching effectiveness only. Both instruments proved to be valid. There was a significant relationship between student and immediate supervisor evaluations. No relationship between the number of years of teaching experience and effectiveness was found by students, but was by supervisors. Neither group evaluation revealed a significant relationship between years of experience in general business teaching or outside work experience and teaching effectiveness. (AG)

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QUALITIES OF AN EFFECTIVE GENERAL BUSINESS TEACHER

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FOREWORD

The following study, by Dr. Betty Jean Brown, Assistant Professor of Office Administration in the College of Business Administration at The University of Tennessee, Knoxville, received the 1973 Delta Pi Epsilon National Research Award. The purpose of this award is to encourage and recognize scholarship and research in business education. It is presented annually for the outstanding doctoral research study in business education completed during a particular calendar year.

Delta Pi Epsilon National Business Education Fraternity established their annual research award in 1939. In 1967 it became necessary to limit eligibility to doctoral dissertations. Currently, fifty to sixty doctoral studies are submitted each year for evaluation.

The evaluation process requires a full year of work by a panel of judges appointed by Delta Pi Epsilon. After advisor and institutional identities are concealed, each study is routed to the judges for a series of independent readings and evaluations. The studies receiving the highest rankings are then submitted for further analysis and ranking. The final phase of the process involves a meeting of judges at which time the winning study is selected.

Dr. Eugene D. Wyllie, National President of Delta Pi Epsilon, stated,

> The fraternity congratulates Betty Brown for her award-winning study, "The Relationship Between Student and Supervisor Evaluations of the Teaching Effectiveness of General Business Teachers." This study is of significance and timely importance to business educators in this age of accountability. Dr. Brown has developed a set of evaluative

guidelines which can be applied both formally and informally by classroom teachers to provide important feedback which can aid in self-improvement. Her study should dispel some of the fear and distrust many teachers normally hold toward student evaluations and has clearly demonstrated that there is a value to be gained from such evaluations.

David A. Hake, Director
Center for Business and
Economic Research

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CHAPTER I

INTRODUCTION TO THE STUDY

I. INTRODUCTION

The quality of an educational program generally is related to a great extent to the quality of teaching. Identification of good teachers, however, is not an easy task. If schools have excellent material resources in equipment, buildings, and textbooks and adapt their curricula to the needs of their students, there still is no guarantee that the whole program will be effective. The teacher is an important part of the total program.

Supervisors, principals, and other administrators in school systems have their own perceptions of an effective teacher, but their ideas often are based on rather nebulous concepts and they cannot identify specifically why they consider one teacher a "good" teacher and another a "poor" teacher. Researchers have tried to identify, in several instances, the qualities that make a teacher effective. Those qualities were identified in various ways: by interviews with teachers, by observations of teachers in the classroom, by ratings of teachers by supervisors and principals, and by the use of questionnaires in which teachers, supervisors, and administrators tried to identify the qualities that make a teacher effective or ineffective in the classroom.

Because a teacher is such an important factor in the learning process, supervisors and administrators must use as many means as

possible to identify those teachers who are or will be effective teachers.

In the field of business education, teachers of high school business classes have an opportunity to reach two kinds of students: those who plan to enter various business vocations, and those who do not plan to major in business education but who need to develop competencies to function effectively in our economic world. Because business teachers may have students of various interests and abilities in their classrooms, it is especially important that the most effective teachers be provided for those classes in business education.

In Tennessee, the general business teacher in a high school serves as a pre-vocational instructor for students who will enter the vocational office occupations programs of the schools. The general business course is one of the basic business courses that are acceptable as prerequisites for entry into the vocational office occupations program.

II. THE PROBLEM

Statement of the Problem

The primary purpose of this study was to determine the relationship between student and supervisor evaluations of the teaching effectiveness of general business teachers. Secondary purposes were to identify the qualities of effective general business teachers through the use of a performance specimen checklist for student evaluation and a supervisors' rating scale for supervisor evaluation, and to describe background factors of teachers judged as effective to

determine whether there is a commonality of experiences or preparation of general business teachers who are effective in the classroom.

Analysis of the Problem

The solution of this problem required the answers to the following questions:

1. What do high school students consider as specimens of good and poor teaching performance in general business classes?

2. What are the characteristics of an effective general business teacher as judged by leaders in the general business field?

3. Is there a significant relationship between the ratings of a teacher by students and by immediate supervisors?

4. Are certain background factors significant in teaching effectiveness?

5. What are the characteristics of an effective general business teacher as identified by an analysis of performance specimens checked by students and an analysis of teacher characteristics rated by a teacher's immediate supervisor?

Assumptions

The following assumptions were made for this study:

1. The study was based on the premise that students are competent evaluators of teacher effectiveness. A consensus of student evaluations of teacher effectiveness can give insight into the qualities that make a teacher an effective teacher. Perhaps no single method of evaluation can be accepted as adequate for measuring the full range of a teacher's

ability in different courses and with different students, but it can give a measure of effectiveness for one course.

Ideally, evaluation of a teacher should be made in terms of how his influence continues after his students leave the classroom. However, because those criteria usually are not available for evaluation of a teacher's effectiveness, proximate measures of effectiveness are used. Student opinions of teacher effectiveness can be used to measure the quality of teaching in classrooms. Scales which ask for actual observation of teacher behaviors or practices reduce subjectivity to a minimum; and observed, objective evidence becomes the basis for evaluation.

2. The assumption was made that a performance specimen checklist developed for this study would list behaviors of general business teachers that could be *observed* by their students and that such a checklist would be suitable for student evaluation of teacher effectiveness.

3. The assumption was made that the *immediate* supervisor of a general business teacher was more qualified than any other supervisor, through his work in and out of the classroom and through his observation of that teacher at work, to judge the quality of performance of that teacher. The person closest to the teacher, the *immediate* supervisor who has had the best opportunity to observe the teacher, probably can give a more valid and reliable rating than any other supervisor of that teacher.

Scope and Limitations of the Problem

The study was limited to a collection of specimens of performance from high school students in general business classes in East Tennessee and to a collection of characteristics of an effective general business teacher identified by eight recognized leaders in general business education.

The study was limited to a sample of general business teachers in East Tennessee for evaluation by students of their effectiveness in teaching general business through the use of a performance specimen checklist and by immediate supervisors through use of a five-point supervisors' rating scale. Teachers and students were chosen from a list of schools compiled from the records of the Tennessee State Department of Education. No attempt was made to validate that list; the 102 schools for whom records were furnished were included in the original population for the study. Thirty teachers were selected from those 102 schools as the sample.

The study was limited to evaluation of teaching effectiveness through use of a performance specimen checklist and a supervisors' rating scale.

Importance of the Study

Business teachers often have very little orientation to the general business course; the assumption is made that if they have been educated to be business teachers, they will be able to teach the course. Tools for identifying effective general business teachers are needed so that more guidance can be given to those who enter the classroom to

enable them to find ways to improve their effectiveness. The business teacher shares with all other teachers the need to possess certain qualities which are important for effective instruction.

The performance specimen checklist and the supervisors' rating scale developed in this study should be useful as tools for self-evaluation by teachers and for evaluation by supervisors for purposes of teacher assignments and supervision.

The findings of this study should be useful as tools for identification of prospective business teachers who have the qualities of being effective teachers, for guiding out of general business teaching those teachers who do not exhibit the qualities found in this study to lead to effective general business teaching, and for guiding teachers in in-service training to become more effective teachers.

III. DEFINITION OF TERMS

The following terms are used in this study and are defined here for clarification:

General business is the initial course taken by students in the general or social business area. It is an introductory course, generally offered at the ninth- or tenth-grade level as an elective course. It is pre-vocational in nature, with objectives of guidance and exploration in the business field and of economic understanding of the role of the consumer and business in today's business world.

A *general business teacher* is a teacher assigned in a secondary school to teach one or more classes in general business.

Psychophysics is a discipline of science concerned with the relationship between physical and psychological magnitudes. In regard to performance evaluation, it is concerned with the laws that relate the responses of organisms to the stimuli of their environment.

Effective performance specimens are specimens of teaching behavior judged by high school general business students to be examples of good teaching in the general business course.

Ineffective performance specimens are incidents of teaching performance judged by high school general business students to be examples of poor teaching in general business.

The *E/I ratio* is the ratio of total number of effective performance specimens checked divided by the total number of ineffective performance specimens checked by students in evaluating their teacher.

Overall evaluation is the students' judgment of the general business teacher's teaching effectiveness and is designated in this study on a five-point rating scale: A, B, C, D, and F.

A *standard score* is one computed by the following formula from Hall:[1]

$$\text{Standard Score} = 10 + 2\left(\frac{\text{Score} - \text{Mean}}{\text{Standard Deviation}}\right)$$

The distribution of scores then has a mean of 10 and a standard deviation of 2.

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[1] Ralph G. Hall, Jr., "A Study of the Teaching Effectiveness of Community Junior College Instructors as Perceived by Students" (unpublished Doctoral dissertation, The University of Tennessee, Knoxville, 1970), p. 46.

The *teaching effectiveness score* of an individual general business teacher is expressed as the sum of the standard E/I score and the standard overall score.

A *performance specimen checklist* is a compilation of the effective and ineffective specimens of teaching performance collected from high school general business students. It also includes an overall evaluation.

The *supervisors' rating scale* is a collection of teacher characteristics developed through the DELPHI Technique by eight recognized leaders in the field of general business. The scale includes a five-point rating for each characteristic and is used by immediate supervisors to evaluate teacher performance in general business teaching.

The *DELPHI Technique* is a means of securing expert convergent opinion through successive questionnaires and feedback, with each round of questions designed to produce more carefully considered group opinions. It eliminates committee activity since it does not bring the experts into face-to-face confrontation, and replaces it with a program of individual interrogations through questionnaires interspersed with information input and opinion feedback.

IV. HYPOTHESES

The hypotheses for this study are:

1. There is no relationship between number of years of teaching and teaching effectiveness in general business.

2. There is no relationship between years of general business teaching and effectiveness in teaching that course.

3. There is no relationship between years of outside work experience and teaching effectiveness in general business.

4. There is no relationship between student and immediate supervisor evaluations of general business teacher effectiveness.

5. There are no distinguishing characteristics that differentiate effective and ineffective general business teachers.

V. PROCEDURES

Chapter III includes a detailed description of procedures used for selecting the sample, constructing and administering the instruments, and analyzing the data for this study.

Thirty general business teachers in East Tennessee were selected for the study. Their students and immediate supervisors were asked to evaluate the teachers' effectiveness by completing a performance specimen checklist and supervisors' rating scale. Each teacher was evaluated by students on sixty-eight items on the checklist, and each supervisor rated the teacher on thirty teacher characteristics. Each teacher furnished information about his background and preparation for teaching general business by completing a questionnaire on background factors.

Selection of the Sample

One hundred two high schools were included in the population of the study. Thirty general business teachers were selected from those schools. One class of general business students taught by each teacher was asked to complete the performance specimen checklists. The immediate supervisor of that teacher was the person identified by the

teacher as the supervisor most qualified to evaluate that teacher's effectiveness in general business.

Construction of the Instruments

The supervisors' rating scale was constructed through the DELPHI Technique, in which a panel of experts in general business education identified essential characteristics of effective general business teachers. The performance specimen checklist used for student evaluation was constructed by collecting and compiling examples of good and poor general business teaching from 538 general business students in high schools in East Tennessee. The questionnaire for background factors included characteristics from earlier studies and the literature.

Administration of the Instruments

The investigator visited each teacher to collect data for the study. During that visit, the investigator asked the teacher to complete the background factors questionnaire, providing information about eight areas of preparation and experiences. At the same time, the general business students in the teacher's class were asked to complete the performance specimen checklist, checking those behaviors they personally had observed during the year. Each student also was instructed to assign an overall evaluation to the teacher, based on all his observations during the year.

After collecting the checklists, the investigator visited the immediate supervisor of the general business teacher to obtain his evaluation of the teacher on thirty characteristics on the supervisors' rating scale. That supervisor rated the teacher on a five-point scale for each characteristic.

Analysis of the Study's Results

The Pearson Product Moment Correlation formula was used to determine the sufficiency and reliability of the performance specimen checklist. The E/I ratio and the overall evaluation were correlated to determine the sufficiency of the instrument, and the split-halves method, corrected by the Spearman-Brown Prophecy formula to estimate reliability for the entire instrument, was used to measure the reliability of the instrument.

Chi-square analysis was used to determine the discriminatory power of each of the sixty-eight items on the checklist. The number of items checked and not checked was used as the basis for that analysis.

E/I scores computed for each teacher were converted to standard scores. The overall evaluations assigned by students to their teachers were converted to standard scores and added to the E/I standard scores, resulting in summed standard scores, which are designated in this study as teaching effectiveness scores.

Teaching effectiveness scores and scores from the rating scale for the most effective teachers (upper 27 percent of the sample) and least effective teachers (lower 27 percent) were subjected to one-way analysis of variance to determine whether any significant differences resulted from differences in years of teaching experience, years of experience in teaching general business, and years of outside work experience.

The *t*-tests were applied to the means of scores of those two groups of teachers to determine whether there was a significant difference in

scores assigned by supervisors and by students. Pearson Product Moment Correlation and Spearman Rank Correlation formulas were used to determine the extent of relationship between supervisor and student evaluations of teaching effectiveness.

VI. ORGANIZATION OF THE STUDY

Chapter I introduces the problem; states the problem; presents an analysis of the problem, the assumptions for the study, the scope and limitations of the problem, and the importance of the study; defines the terms used in the study; and presents an overview of procedures used.

Chapter II presents a review of the related literature.

Chapter III describes the procedures used in developing the instruments for the study and in collecting the data, and presents the statistical methods used in analysis of the data.

Chapter IV presents the findings of the study.

Chapter V contains a summary of the study, some observations resulting from the study's findings, and the conclusions and recommendations made as a result of the study.

CHAPTER II

REVIEW OF THE LITERATURE

I. INTRODUCTION

Attempts have been made by several investigators to determine the qualities that make a person an effective classroom teacher. Various techniques have been used in those investigations to determine what factors constitute good teaching according to the opinion of some group of persons, whether experts, students, fellow teachers, supervisors, or other groups.

The DELPHI Technique is a relatively new technique developed at the RAND Corporation in the early 1950's as a method of gaining a consensus from a group of participants without bringing them into face-to-face confrontation. Because the DELPHI Technique was used in this study to develop the supervisors' rating scale for evaluation of the general business teachers included in the study, that technique is described and literature pertaining to the technique is reviewed.

In the area of business education, several studies have attempted to identify the qualities of an effective secondary business teacher, prospective business teacher, or supervisor of prospective teachers in business education. Studies related to business education are reviewed in this chapter.

Several studies have been completed at The University of Tennessee using a performance specimen checklist technique. Because those studies are related in technique to this one, three of them which were completed in recent years are reviewed in this chapter. The theory of psychophysics

and its operation in the technique of performance evaluation through the use of a performance specimen checklist has been investigated by Whitlock. Two of his publications discussing that theory will be reviewed.

II. THE DELPHI TECHNIQUE

Traditionally, a consensus is achieved by having a group of individuals meet and attempt to come to a group opinion. In the process, an influential member of the group may be able to impose his will on the group, and the result may be a consensus on his ideas. The DELPHI Technique eliminates committee activity and avoids bringing the participants into face-to-face contact. Instead, each member of the committee is given information through questionnaires and feedback of information and opinions. A summary of the responses of other participating members of the committee can be given to each committee member for his consideration before he again expresses his opinion. Anonymity of participants forces more objectivity into the formation of opinions. Individual views of participants are not lost; instead, all participants are given a better opportunity to make their views heard.

Various studies have been conducted using the DELPHI Technique to gain a consensus since its instigation in the early 1950's by a research group at the RAND Corporation. That group devised the DELPHI Technique (originally named for the oracle at Delphi) as a means of circumventing the problems involved in getting concise advisement from a group without distorting or submerging the individual opinions and

rationales of its members.[1] The technique avoids the compromise that usually results from group interaction. Olaf Helmer and his colleagues at the RAND Corporation used the technique to obtain group opinions about urgent defense problems.

Helmer described the DELPHI Technique in his book *Social Technology*. He first described the traditional methods of utilizing the services of more than one expert on the same problem, and then discussed variants of the traditional, straight-forward way of having the experts assemble in one place, discuss the problem, and arrive at a joint answer.[2]

Brown and Helmer reported the results of an experiment involving the DELPHI Technique in operations research. In operations research, the objective is not so much to find out things as the pure scientist tries to do, but to arrive at decisions for operation. In the experiment, Brown and Helmer submitted twenty questions to a panel of twenty-three persons drawn from the RAND Corporation research staff. The questions covered a variety of subjects; the panelists were to answer them without consulting any references and without spending more than a few minutes on each question. In the first-round questionnaire, each panel member was asked to give an estimate of his own expertise on each question, as well as answer the question. In the second questionnaire, each member was informed of the group median, the interquartile range, and the frequency of distribution of the self-ratings. In the second

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[1] Harper O. North and Donald L. Pyke, "'Probes' of the Technological Future," Harvard Business Review, 45:68-82, May-June, 1967.

[2] Olaf Helmer, Social Technology (New York: Basic Books, Inc., 1966), p. 16.

round, the participants were asked to consider the opinions of the group, reconsider their own answers, make a second estimate of the answer, and briefly state a reason for the opinion given if that new answer lay outside the indicated interquartile range.

A third-round questionnaire again gave the medians and interquartile range of the responses and the reasons given by the panel members for divergent opinions. In the final questionnaire, the participants were given information about responses on the third questionnaire and a summary of the majority and minority responses. They then were given a last opportunity to revise any of the twenty answers given to the questions.[3]

That experiment illustrates the procedure used in the DELPHI Technique. A series of questionnaries is sent to a panel of experts who are to express their opinions on the questions asked. Any additions or revisions thought appropriate may be supplied also. Each time the data collector returns to the panel members a summary of the responses of the entire panel, along with reasons given by any panel members whose opinions are divergent from that of the group. By the fourth questionnaire the group attempts to come to an agreement in opinions. The DELPHI Technique has been used in educational settings to answer questions about priorities in school systems, allocation of resources, and changes taking place in education.

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[3] Ibid., pp. 97-108.

III. EFFECTIVENESS OF SECONDARY BUSINESS TEACHERS

Several studies have been conducted in recent years on the effectiveness of secondary business teachers. Those by Dettmann, Hairston, Kessel, Thompson, and Blackburn are reviewed here. Other studies also have some implications for preparation and development of general business teachers.

Dettmann Study

In 1955 Dettmann[4] conducted a study to determine the relationship that existed between certain characteristics and data about secondary school business teachers collected before and during their attendance at college and their success as beginning teachers. The secondary purpose of the problem was to determine the extent to which teaching success of beginning business teachers may be predicted.

Two types of data were provided: (1) those regarding the factors studied for their relationship to teaching success and (2) those used in establishing the criterion measures for success. Data were obtained from high school and college records of grade reports, mental ability, admissions tests, records of extra-curricular participation, senior rankings, and practice teaching grades.

Ratings on the teachers were obtained from principals and a small number of supervisors. The investigator visited the classroom of each teacher; on the basis of his observations, he ranked the fifty teachers from one to fifty on the basis of their effectiveness as he observed

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[4] John A. Dettmann, "Factors Related to Success in Teaching Business Subjects in the Secondary School" (unpublished Doctoral dissertation, The University of Wisconsin, Madison, 1955).

them. Ratings also were obtained from principals and secondary school supervisors of the state department of public instruction; and from those three kinds of ratings, four criteria were devised for estimating teacher success: Criterion A, Principal ratings of overall teaching success; Criterion B, Principal ratings of classroom effectiveness; Criterion C, Investigator's ranking of classroom effectiveness; and Criterion D, Investigator's intuitive composite ranking of overall teaching success.

Data were collected from the colleges from which two groups of beginning business teachers had graduated. Photostatic copies of college records provided much of the background information such as test scores, practice teaching ratings, and college and high school records. The following factors were included in the study: high school aptitude test results; college admission tests results, including the ACE Psychological Examination, ACE Cooperative English Examination, California Interest Inventory, California Test of Personality, and Minnesota Multiphasic Personality Inventory; percentile rank in high school class; college grade point average for freshman academic courses; overall grade point averages; business course grade point averages; education course grade point averages; practice teaching grades; practice teaching subgrades; critic teacher ranking, both original and revised; ratings on leadership scales; student activity factors; and rankings of expected success after graduation. In addition, the investigator collected information through classroom observation of the subjects' teaching, principal ratings of the teachers' performances, and secondary school supervisors' ratings. Fifty-three

factors were selected for study and were classified into five categories: admission tests, academic factors, practice teaching factors, leadership and student-activity factors, and prediction of success after graduation.

Conclusions drawn from Dettmann's study were:

1. Overall grade point average in college was the most acceptable all-around academic factor in teaching success. Grades in college methods courses in business education were related to teaching success, also.

2. Other evaluations of student-teaching performance besides the student-teaching grade itself provided better indications of teaching success than the grade given.

3. Leadership ability at the college level was an important element in predicting teaching success.

4. The factors showing the greatest relationships with teaching success were those based on subjective evaluations. Personality factors probably were an important part of those composites.

5. The best indicator of success for the beginning business teacher was a comparative ranking of expected success provided by some group of judges such as faculty members who had worked with and known the prospective teacher over a long period of time.

6. When several factors were used in combination, the rankings of student-teaching performance provided by supervisors and rankings of leadership ability provided by faculty members who had worked closely with the student were the best factors for predicting the success of business teachers.

7. The success of business teachers can be predicted when the criterion of teaching success is carefully and uniformly established.[5]

Dettmann's study indicates that more investigation is needed into the identification of factors that contribute to teacher success and that those factors can be used to screen business teachers during their preparation for a career. Methods courses, student teaching success, and subjective evaluations did have predictive value in his study.

Hairston Study

In Hairston's[6] study in 1965, an investigation was conducted to attempt to arrive at an operational definition of a "good" teacher of basic business classes based upon an analysis of critical incidents. The specific purposes of the study were to (1) determine what critical incidents are indicative of a "good" teacher of basic business classes; (2) determine the critical requirements for successful performance of teachers of basic business classes; and (3) derive from an analysis of the critical requirements an operational definition of a "good" teacher of basic business classes.

Questionnaires were sent to the supervisors of business education and teachers of basic business classes in the secondary schools of six arbitrarily chosen states to obtain critical incidents necessary to arrive at an operational definition of a good teacher. Supervisors of business education were chosen as the observers of Group I to cover

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[5] Ibid., pp. 148-150.

[6] James W. Hairston, "An Operational Definition of a 'Good' Teacher of Basic Business Classes Based Upon an Analysis of Critical Incidents" (unpublished Doctoral dissertation, Colorado State College, Greeley, 1965).

a wider geographic area, to obtain a larger sample of critical incidents and to minimize local prejudices and biases of school administrators relative to business teachers. Each supervisor was asked to recall critical incidents of a teacher of basic business classes in his school system and report those incidents as he recalled them. Teachers of basic business classes in those six states were selected as the observers of Group II. The teachers were asked to recall and report critical incidents which had occurred in their basic business classes.

Questionnaires, an explanatory letter, an instruction sheet, and a sample of a critical incident were sent to each observer. A total of 695 questionnaires was mailed, and 320 were returned. Two hundred forty-five of those returned were usable; they contained 198 usable incidents.

Four major categories and nineteen subcatagories of behaviors were derived from those incidents; the major categories were: Effective Instructional Skills, Effective Classroom Administration, Effective Community Relationships, and Effective Professional Qualities. The most important category of requirements, based on the frequency classification of critical behaviors, was Effective Instructional Skills, with 109 frequencies of critical behaviors. The second most important category was Effective Classroom Administration, with eighty-four behaviors.

From the four categories of critical behaviors, twenty-six critical requirements for teachers of basic business classes were formulated. The "good" teacher of basic business classes:

1. uses a variety of teaching methods and techniques;

2. recognizes, understands, and employs psychological principles of learning;

3. seeks and accepts student suggestions and cooperation in planning instructional activities;

4. plans instruction that promotes and enhances student understanding;

5. tries new and experimental teaching methods;

6. prepares and uses a variety of visual and sensory teaching aids;

7. stimulates student interest and participation in class activities;

8. provides learning experiences that possess meaning and facilitate understanding;

9. uses advanced students to motivate their classmates;

10. makes use of demonstrations, chalkboard illustrations, and bulletin board displays;

11. provides adequate classroom supervision;

12. earns student respect through classroom conduct;

13. uses instructional times to the best advantage of all students;

14. exhibits consistently democratic leadership;

15. employs disciplinary measures that encourage and rehabilitate problem students;

16. respects the rights of students;

17. assumes an active role in the business activities of the community;

18. maintains good working relations with the business community;

19. uses community resources to improve instruction;

20. promotes cooperation between the school and the business community;

21. possesses an adequate knowledge of the subject matter;

22. displays a genuine interest in students;

23. keeps abreast of new developments in education;

24. is a member of and assumes an active role in professional organizations;

25. generates enthusiasm for students and for teaching; and

26. avoids undue familiarity with students.[7]

From his study of the critical incidents identified in teacher behavior, Hairston found that basic business leaders and teachers of basic business classes alike were quite concerned about the instructional skills of teachers. Leaders in business were completely in agreement that a "good" teacher of such classes should have depth in preparation, including a broad background in economics; should use a variety of teaching methods and techniques in the classroom; and should understand people and the teaching and learning processes. The intellectual, professional, and personal capabilities of a teacher should be considered in establishing an approach to selecting basic business teachers. The critical requirements derived from Hairston's study can be used for selection procedures. He recommended that the critical requirements set forth in his study be used by basic business teachers for self-evaluation, for pre-service and

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[7] Ibid., pp. 81-82.

in-service education, and for acquainting supervisors of business education with the classroom responsibilities of business teachers. They also may be used to acquaint prospective teachers with basic business teaching.

The operational definition of a "good" teacher of basic business classes derived from the critical requirements is one who has adequate preparation in the basic business area, employs the principles of learning in planning instruction, and varies teaching methods and techniques to promote student understanding and maintain student interest. He provides the necessary classroom supervision, utilizes class time for the benefit of all students, and minimizes discipline problems by exercising democratic classroom leadership. He improves instruction and promotes basic business by using the available community resources, promoting cooperation between the school and the community, and taking an active part in the community. He is an active member of professional organizations and keeps abreast of new trends in education. Also, he generates enthusiasm for students and the teaching profession.[8]

The findings of the Hairston study will be compared with the findings of the present study and some observations will be made concerning those two studies in Chapter V.

Kessel Study

Kessel[9] conducted a study to determine the critical requirements for the effective performance of secondary school business teachers.

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[8] Ibid., pp. 63-64.

[9] Robert M. Kessel, "The Critical Requirements for Secondard School Business Teachers Based Upon an Analysis of Critical Incidents"

In various studies of the same nature as the Kessel study, four procedures were used to obtain critical incidents from observers: individual interviews, group interviews, questionnaires, and written records and reports. Kessel used individual interviews as his method.

Fifty secondary school business teachers and fifty secondary school principals employed in selected schools within a radius of fifty miles of the investigator were invited to participate in the study as observers. The principal was selected as an observer of critical incidents because of the greater likelihood that he would be in a position to make such observations. A structured interview technique was devised for the personal interview. After a pilot study to test the instruments and techniques, the investigator conducted all of the interviews with the selected observers, visiting an average of four schools per day and spending approximately thirty minutes in the interview with the teacher and thirty minutes with the principal.

Each incident collected was coded to show the following kinds of information: time of the incident; sex of the business teacher; age; salary; educational level attained; college major; teaching experience; time spent in teaching business subjects; courses taught; and amount of business work experience. From the account of each incident, the critical behavior of the teacher was selected. The critical incidents were classified into four broad areas of business teacher responsibility: Curriculum Planning and Instructional Procedures; Classroom Management;

(unpublished Doctoral dissertation, The University of Wisconsin, Madison, 1956).

Extra-Class Responsibilities; and Staff and Community Relations. Kessel found that any differences in the proportion of incidents reported by the two observer groups in the four areas of business teacher responsibility were explained by chance factors. He identified seventeen requirements that are critical to effective performance of a secondary business teacher:

1. Assumes leadership in initiating and justifying new areas of study in business education.

2. Adjusts the emphasis and content of existing courses according to total business program objectives.

3. Devises methods of dealing with varying abilities and interests of students in the classroom.

4. Tries new teaching methods and techniques.

5. Makes frequent appraisals of total class progress toward class goals.

6. Assumes responsibility for academic and vocational guidance of students in business courses.

7. Takes a personal interest in students who are having difficulty in class work and encourages and helps those students.

8. Takes a personal interest in students having problems of a personal nature and gives those students help and encouragement.

9. Uses disciplinary measures that encourage the rehabilitation of problem students.

10. Remains composed while dealing with discipline problems.

11. Takes immediate action on discipline problems.

12. Willingly accepts extra-class assignments.

13. Provides for adequate supervision of the extra-class assignments for which responsibility has been assigned.

14. Demonstrates personal support of the school program of extra-class activities by attending extra-class functions.

15. Cooperates in helping to promote a harmonious working relationship among the teaching staff.

16. Maintains a cooperative attitude in personal and professional dealings with school administrators.

17. Demonstrates a personal pattern of behavior in the community that encourages favorable public opinion of the business education program and of the school generally.[10]

Kessel found that teachers who were included in his study considered in-class activities to be the most important aspect of their job, much more than extra-class activities. Principals, however, in general considered extra-class activities to be more important than teachers did.

Thompson Study

Thompson[11] conducted a study to determine and analyze the competencies desirable for public secondary school business teachers. He first sought the opinions of experts in business education and education in general and examined the literature for a ten-year period to list the competencies needed. All the competence statements found

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[10] Ibid., pp. 124-126.

[11] Robert J. Thompson, "The Competencies of Secondary School Business Teachers" (unpublished Doctoral dissertation, Stanford University, Stand. 1956).

were classified under six factors: teaching techniques, psychological and sociological foundations, participation in school activities, citizenship, community relations, and membership in the profession. The list was sent to three groups of educators: 113 business teacher educators, 100 public secondary school business teachers, and 126 public secondary school principals.

All three groups placed the same competencies first, and the top ten were fairly uniform. A high correlation was found between the ratings of the business teacher educators and business teachers. However, a much lower degree of agreement existed between the business teacher educators and the secondary school principals.

The top ten competencies identified in Thompson's study showed that the effective secondary business teacher:

1. is interested in and enthusiastic toward the subject;
2. presents materials on a level that pupils can understand;
3. respects the confidence of a pupil; information given in confidence is kept in confidence;
4. makes his professional life one of continuous growth;
5. develops and maintains proper attitudes and skills;
6. follows ethical business procedures;
7. is patient and shows impartiality;
8. makes efficient use of time allotted;
9. provides for variety of participation in the lesson, other than questioning; and
10. develops unity and purposiveness in the class.[12]

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[12] Ibid., pp. 85-87.

Blackburn Study

In 1967, Blackburn[13] studied the academic preparation of general business teachers in the secondary schools in Tennessee in 1965-1966. He collected descriptions of desirable academic preparation of those teachers from the writings of business educators, research in business education, and recommendations of the National Association for Business Teacher Education. Data were collected from the files of the State Department of Education of Tennessee on the academic preparation of 236 Tennessee general business teachers and their teaching assignments.

Blackburn found that almost 50 percent of the general business teachers in Tennessee had been certified for only one to five years. Forty-three percent of them were certified to teach general business. However, 22 percent were prepared to teach and certified before the general business subject endorsement was available. Only 15 percent of the teachers had master's degrees; 97 percent held bachelor's degrees. The 236 teachers taught an average of 1.5 general business classes each with an average class enrollment of 29 students.

All of the teachers had taken at least one social studies course, primarily psychology or history. A majority of them had at least one quarter or semester of credit in the business courses of economics, accounting, business law, typewriting, business communications, shorthand, and business mathematics. Less than half of them had a course in marketing or retailing, and less than one-third of them had a course in

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[13] David D. Blackburn, "Academic Preparation and Teaching Assignments of General Business Teachers in the Secondary Schools of Tennessee" (unpublished Master's thesis, The University of Tennessee, Knoxville, 1967).

office management, money and banking, salesmanship, economic geography, or business organization. Less than 20 percent of them had taken any of the following courses: management, labor economics, advertising, insurance, transportation, and data processing.

Teachers who had been certified in more recent years were found in Blackburn's study to have taken more courses in law, business mathematics, accounting, statistics, and business communications than teachers certified earlier. A greater proportion of their course work was taken in nonskill areas, also. The only professional education course taken by a majority of the teachers was a general methods of teaching course. Only 20 percent of them had a course in teaching basic business subjects. Thirteen percent of them had taken no methods courses. Seventy-five percent of them had student teaching experience, but no data were available on the kinds of assignments given them during that experience.

Blackburn made the following observations about general business teacher preparation in Tennessee:

1. Since a teacher probably will on some occasion teach a basic business subject and a business skill subject, he should have instruction in teaching both types of business subjects.

2. More course work in guidance, tests and measurements, and curriculum should be taken in preparation for teaching general business.

3. Teachers should take more courses in business and related subject matter to prepare them better to teach general business. A solid background in the area of business is paramount in importance because of the broad objectives of the high school general business course. Only a small number of teachers have taken such courses as

advertising, comparative economic systems, insurance, real estate, data processing, and others which contain abundant subject matter on business.

IV. USE OF PERFORMANCE SPECIMEN CHECKLISTS ON TEACHER EFFECTIVENESS

Whitlock and others have studied the application of the psychophysical law to performance evaluation and have found that the observation of performance specimens could be used for evaluation. Several assumptions underlie the theory of performance evaluation presented by Whitlock:

a. Evaluation of performance is a response to a set of observations of performance.

b. Observations which are associated with evaluation are the observations of performance specimens.

c. Observations of specimens can be remembered over a reasonable rating period (e.g., 6 months) and reported with sufficient accuracy at the end of the period.[14]

Whitlock defined a performance specimen as "an incident of relevant performance which is uncommonly effective or uncommonly ineffective."[15] His investigations indicated that equal ratios in the number of performance specimens observed resulted in equal ratios in performance evaluations, for both effective and ineffective performance specimens.[16]

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[14] Gerald H. Whitlock, "Application of the Psychophysical Law to Performance Evaluation," Journal of Applied Psychology, 47:15, February, 1963.

[15] Ibid.

[16] Ibid., p. 16.

Whitlock,[17] Eble,[18] and Hudelson[19] have defended student evaluation of teacher effectiveness as a valid measurement. On the basis of various studies carried out at The University of Tennessee to refute criticisms of student evaluation, Whitlock contended that student evaluations are not capricious. Evidence from those studies pointed to the fact that student judgments of teaching effectiveness are defensible. Those studies found that students know when they are learning and can identify those teacher practices which are productive or preventive of learning. A performance specimen checklist was used as a method of rating teacher effectiveness.[20]

Eble cited several arguments in favor of student evaluation of teaching effectiveness, including the argument that evaluation by students can contribute to the general enhancement of teaching.[21]

Hudelson conducted a study to determine if student ratings of instructors were of very low validity because of the tendency of students to rate their instructors according to the marks given to them by those instructors. He found a very low correlation between the instructors marks and student ratings and concluded that the students did not let marks influence their opinions.[22]

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[17] Gerald H. Whitlock, "Evaluating Instruction: Learning/Perceptions," Teaching-Learning Issues, 16:3-11, Spring, 1971.

[18] Kenneth E. Eble, The Recognition and Evaluation of Teaching, (Washington, D. C.: American Association of University Professors, 1970).

[19] Earl Hudelson, "The Validity of Student Rating of Instructors," School and Society, 73:265-266, April, 1951.

[20] Whitlock, op. cit., p. 8.

[21] Eble, op. cit., p. 17.

[22] Hudelson, op. cit., p. 265.

Among studies conducted at The University of Tennessee on teacher effectiveness using a performance specimen checklist are studies by Douglass, Hall, and McCorkle. These three studies will be reviewed because of their relevance to the technique used in the present study.

Douglass Study

The purpose of the study by Douglass[23] was to investigate the relationship between teacher behavior and teacher effect in order to determine what types of specific teacher behaviors produce desired and undesired teacher effects. The study tests the hypotheses that there was no relationship between scores on the checklist and student achievement as measured by final examination scores, that there was no difference in discrimination power between teacher behavior specimens characterized as both effective and productive of learning and those specimens characterized as only productive of learning, and that a power function would describe the relationship between stimulus and response magnitudes. The purpose of the study became one of constructing, administering, and evaluating a checklist for performance appraisal of teachers insofar as they cause or prevent learning.[24]

Douglass constructed a 77-item checklist and administered it to 580 students in three university courses. She concluded that the specimens included in the checklists which were characterized as both effective and productive of learning were more discriminative with

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[23] Linda Grove Douglass, "Measures of Teacher Evaluation as Related to Student Achievement" (unpublished Master's thesis, The University of Tennessee, Knoxville, 1968).

[24] Ibid., p. 2.

respect to achievement than those characterized only as productive of learning. There was no relationship between scores on the teacher performance checklist and student achievement on the final examination.

Three checklists were administered; the three differed in overall rating design but not in the type or order of specimens included. Form 1 included an overall rating for effectiveness, Form 2 included an overall rating for learning, and Form 3 included an overall rating for effectiveness and an overall rating for learning. Specimens for the checklist were collected by asking students to describe an incident in which a teacher caused them to learn and an incident in which a teacher prevented their learning. The specimens were collated and edited for use in the final checklist.

Some small contradictions in the specimens, that is, the fact that a few specimens of effective performance were significant for the unsuccessful teacher and a few specimens of ineffective performance were significant for the successful teacher, led Douglass to state that

> . . . no definitive statement can be made as to the precise set of behaviors necessary for "teacher effectiveness," even in a fairly well defined situation.[25]

Hall Study

The basic purpose of an investigation by Hall[26] of teaching effectiveness of junior college instructors was to determine if a difference existed in the teaching behaviors and teaching effectiveness

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[25] Ibid., p. 63.

[26] Ralph G. Hall, Jr., "A Study of the Teaching Effectiveness of Community Junior College Instructors as Perceived by Students" (unpublished Doctoral dissertation, The University of Tennessee, Knoxville, 1970).

of groups of community junior college instructors categorized according to their prior educational, occupational, and professional experience. He also attempted to determine if differences existed in the teaching effectiveness of instructors categorized according to age, sex, teaching experience in junior colleges, and total years of classroom teaching experience.

Hall developed a performance specimen checklist by asking students to identify uncommonly good and uncommonly poor specimens of teaching behavior. Sixty-eight specimens were identified and organized into a checklist. That checklist then was administered to 2,355 students in eight junior colleges in Florida. Instructors were categorized into five groups, based on their prior educational, occupational, and professional experience. The groups were: (1) retired military personnel, (2) former elementary and secondary school teachers, (3) former four-year college and university instructors, (4) former business and industry personnel, and (5) instructors holding master's degrees but having no prior full-time teaching experience outside of the junior college.

Hall found that only four specimens failed to discriminate beween the upper 27 percent of instructors and the lower 27 percent. No significant differences were found among the five groups of instructors when their teaching effectiveness was measured. However, differences in teaching behaviors were found. Instructors between the ages of 20 to 29 years and 60 years or more were perceived by community college students as less effective than instructors between the ages of 30 and 60 years.[27]

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[27] Ibid., pp. 86-87.

The performance specimen checklist designed by Hall was compiled in the same way in which the checklist for the present study was formulated. The techniques for analyzing the results of the Hall study also are similar to those used in the present study.

McCorkle Study

McCorkle[28] also conducted a study based on the use of a performance specimen checklist as a measure of teaching effectiveness. He collected seventy-seven specimens in a method similar to Hall's method. Students were asked to respond to two questions: "Think of the last time you saw one of your teachers do something in class or out of class, such that when he did it you said to yourself, 'There is an example of uncommonly good teaching'," and "Think of the last time you saw one of your teachers do something in class or out of class, such that when he did it you said to yourself, 'There is an example of uncommonly poor teaching'."[29] The responses were compiled into two forms of Checklists, Form II for Grades Seven, Eight, and Nine, and Form I for Grades Ten, Eleven, and Twelve. Form I had seventy-seven specimens; Form II had sixty specimens. Students were asked to rate one of their teachers, checking those specimens that were observed to occur while the student was under the influence of the teacher. Each student also made an overall evaluation of the teacher by assigning an "A," "B," "C," "D," or "F."

The major conclusions of the McCorkle study were:

1. The law of psychophysics was applicable to all secondary

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[28] Jack S. McCorkle, "Student Perception of Teacher Effectiveness" (unpublished Doctoral dissertation, The University of Tennessee, Knoxville, 1968).

[29] Ibid., p. 11.

school grades, to both accelerated and remedial students, and to students in both predominantly black-attended schools and predominantly white-attended schools.

2. Student perceptions of teacher effectiveness had structure. Students hold different concepts of effectiveness at different grade levels and across different classifications.

3. The factor structure of students in predominantly black-attended schools had in each factor a specimen concerning the teacher's being of service to students. Those specimens were not present in the factor structure of students attending schools of predominantly white attendance.[30]

The procedure for the formation of the performance specimen checklists for McCorkle's study was very similar to the procedure used for the present study.

V. TEACHER EFFECTIVENESS

Various investigators have attempted to define teacher effectiveness and outline ways in which it can be measured. Barr has conducted studies in the area of teaching effectiveness and from his findings has proposed a list of twelve characteristics of successful teachers: resourcefulness, intelligence, emotional stability, considerateness, buoyancy, objectivity, drive, dominance, attractiveness, refinement, cooperativeness, and reliability.[31] His approach to defining a successful teacher is one of describing the qualities of the person. Others

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[30] Ibid., pp. 256-257.

[31] A. S. Barr, "Characteristics of Successful Teachers," Phi Delta Kappan, 39:282-284, March, 1958.

have described teachers in terms of behaviors, in which case it becomes a difficult task to define the qualities in operational terms; or in terms of mental prerequisites to effectiveness: knowledge, special skills, and attitudes.[32] An important criterion for any description of an effective teacher is that it must be long enough that it does not overgeneralize the characteristics needed, yet it must be short enough that the description is useful to a teacher in the classroom.

The process of evaluating teachers to determine their effectiveness often results in someone in a position of authority comparing them with an elusive "ideal" teacher embodying all the qualities of perfection in teaching. In that case evaluation becomes an end in itself, not a means to an end. If it is only an end, it becomes a reward-punishment device. If it is a means, it becomes a tool for improving the teaching-learning situation in the classroom.

An important criterion for any measurement of teacher effectiveness is that the measurement be as objective as possible. Generally, criticisms of any procedure used in evaluation of teacher effectiveness center in the fact that the procedure has been subjective. Beecher[33] devised the Teaching Evaluation Record as an instrument for supervisor evaluation of teachers and described it as a scale "so constructed as to require actual observation of those practices, behaviors, and conditions which give concrete evidence of the quality of teaching."[34]

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[32] Ibid., p. 282.

[33] Dwight E. Beecher, The Teaching Evaluation Record, (Buffalo: Educators Publishing Co., 1953).

[34] Ibid., p. 3.

That scale was designed to cover all areas and grade levels of teaching. The principle in that scale, that of basing evaluations on actual observed evidence, thus reducing subjective opinion to a minimum, is inherent in many kinds of rating scales devised for teacher evaluation and is basic to Whitlock's performance specimen checklist and the checklist used in this study.

Some qualities of effective teachers are common to all effective teachers, regardless of the grade level or the capabilities of their students. However, to judge the effectiveness of a teacher in a particular subject-matter area, one must select an appropriate set of items on which judgments can be made. Redfern[35] identified some of the problems and procedures in teacher evaluation and suggested ways in which appraisal of teacher performance could be used in a school. Good teaching is a goal about which much has been written; but yet, as Redfern said, "The appraisal of teaching has baffled both teachers and school administrators for half a century."[36] However, if appraisal is done on the basis of performance, rather than personality factors, the results of any evaluation of a teacher's effectiveness can be used as a basis for improvement of the teaching situation.

As early as 1912, a study appeared in the literature which attempted to identify the qualities of merit in secondary school teachers. Boyce[37]

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[35] George B. Redfern, How to Appraise Teaching Performance, (Columbus, Ohio: School Management Institute, Inc., 1963).

[36] Ibid., p. 6.

[37] Arthur Clifton Boyce, "Qualities of Merit in Secondary School Teachers," Journal of Educational Psychology, 3:144-157, March, 1912.

studied the qualities of high school teachers and found that (1) sex made little difference in the teaching efficiency of a teacher; (2) advanced work in college or university or professional training were important factors in successful high school teaching; (3) experience had an important place in modifying teaching efficiency, but did not appear to be as important as it was sometimes thought; and (4) instructional skill, results, stimulation of individuals, intellectual capacity, and discipline ranked highest among the specific qualities of merit.

Hayes[38] devised a 26-item questionnaire in which students were asked to indicate their reaction to a forced choice of items. Fifteen items had four choices, and the remaining items had only two choices: Agree and Disagree. After analyzing the results of the 660 student questionnaires that were returned, Hayes concluded that the scale was satisfactory and that the nine most promising items on the questionnaire could measure effectiveness of teaching. He concluded that the students were honest raters of their instructors and that they could distinguish between effective and ineffective teaching. He also found that there are certain desirable behaviors which are generally characteristic of good teachers and are not generally characteristic of poor teachers.[39]

Effective teachers for general business are important for various reasons, but especially because of the large number of students who enroll in the course. Nanassy has written that " . . . a well-considered

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[38] Robert B. Hayes, "A Way to Measure Classroom Teaching Effectiveness," The Journal of Teacher Education, 14: 168-176, June, 1963.

[39] Ibid., pp. 168-170.

estimate would place current enrollments of general business in excess of 650,000 students."[40] With increased focus on the importance of the general business course, with more emphasis on methods of teaching general business, and with more business teacher education programs requiring greater depth of preparation in content subjects in the general business area, Nanassy believes that " . . . the quality and effectiveness of teaching general business will continue to improve."[41]

One of the most comprehensive studies on teaching effectiveness ever to be conducted was a research study sponsored by the American Council on Education and supported by the Grant Foundation in which more than 6,000 teachers in 1,700 schools and approximately 450 school systems were systematically observed and assessed to identify significant patterns of teacher behavior.[42] Because of its thoroughness and wide focus, that study will be described and its major findings will be outlined here. The study was directed by David Ryans over a ten-year period.

In the Ryans study, the consideration of the effectiveness or ineffectiveness of particular behaviors of individual teachers was not the focal point. Instead, the study attempted to look at possible teacher behavior dimensions--generalizations which define clusters of

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[40] Louis C. Nanassy, "From Junior Business Training to General Business--Five Decades of Development," The Balance Sheet, 52:299, April, 1971.

[41] Ibid.

[42] David G. Ryans, Characteristics of Teachers: Their Description, Comparison, and Appraisal (Washington, D. C.: American Council on Education, 1960).

teacher behaviors. The major objectives of the study were: (1) to identify and analyze some of the patterns of classroom behavior, attitudes, viewpoints, and intellectual and emotional qualities which may characterize teachers; (2) to develop paper-and-pencil instruments suitable for estimating the patterns of classroom behavior and personal qualities of teachers; and (3) to compare characteristics of various groups of teachers.[43] The study was conducted with two possible uses of the results in mind:

> . . . first, by school systems as an aid in identifying teachers who, at the time of selection for employment or perhaps in connection with promotion, have characteristics similar to those deemed important and desirable by the particular school system and the culture it represents; and, second, by teacher education institutions as an aid to a better understanding of teacher characteristics and associated conditions, which would contribute to improved procedures for selecting teaching candidates and to the improvement of professional courses and curricula.[44]

The very thorough study directed by Ryans identified several groups of characteristics of teachers considered effective and ineffective at both the elementary and secondary levels. The Ryans study developed a list of forty-seven characteristics that were significantly more frequently associated with teachers in secondary schools who were rated as effective in classroom behavior. Some of the characteristics which described an effective teacher in that study included:

> Has had from four to nine years experience teaching the secondary grades.
>
> Has completed either five or six years of college work.

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[43] Ibid., pp. 9-10.

[44] Ibid., p. 11.

Believes very few pupils are difficult behavior problems.

Would prefer to develop own course of study for classes.

Believes it possible to develop course content of most high school classes around "real life" situations.[45]

The list of characteristics associated with teachers in secondary classrooms who received low assessments when observed in the classroom included:

Thinks disorderliness and noise are more indicative of a poor class than listless students, dependency of pupils, or hesitancy and unsureness of pupils.

Is 55 years of age or older.

Disagrees with statement "It is possible to develop school classwork around 'out-of-school' activities."[46]

VI. SUMMARY

This chapter presented a review of selected studies that have been conducted to evaluate teacher effectiveness. The findings relative to identification of effective and ineffective teachers, however, are inconclusive. There is no one pattern of behaviors or attributes found in those studies which can describe an effective teacher. The age and capabilities of the students, the personal traits of the teacher, and the setting in which the teaching is done are definite influences on the effectiveness or ineffectiveness of the teacher.

Much has been written about ways of measuring teacher effectiveness, and several methods of measurement have been described in this chapter. The use of a performance specimen checklist was supported by

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[45] Ibid., pp. 354-355.

[46] Ibid., pp. 356-357.

citing studies which have found the checklist to be a valid means of evaluation.

The technique developed by Whitlock and others and tested in several studies was used in the formation of the checklist used in this study. The instrument was constructed for use by general business students in selected general business classrooms in East Tennessee.

CHAPTER III

PROCEDURES FOR COLLECTING AND ANALYZING THE DATA

I. INTRODUCTION

The purposes of this chapter are to describe: (1) the use of the DELPHI Technique in compiling the supervisors' rating scale; (2) the preparation of the questionnaire for background information; (3) procedures for compiling the performance specimen checklist; (4) the procedures for selecting the sample of general business teachers, general business classes, and immediate supervisors included in the study; (5) the collection and coding of the data; and (6) the statistical techniques used to analyze the data.

II. USE OF THE DELPHI TECHNIQUE FOR THE SUPERVISORS' RATING SCALE

The DELPHI Technique requires a panel of experts who can contribute their opinions to the resolution of an issue, the solution of a problem, the formulation of goals, or similar projects. Eight business education leaders in the field of general business were selected as the panel of experts for this study. Those eight persons have written extensively in the field of general business teaching and are generally recognized as leaders in that field of business education. They were contacted by letter and were asked if they would participate in the study by replying to a series of questionnaires which would ask their opinions about the importance of forty-five characteristics of general business teachers collected from the literature. Appendix A shows a list of those panelists.

From previous studies on general business teachers and from literature concerned with characteristics of such teachers, a list of observable behaviors was collected. The original list contained forty-five characteristics which were categorized as follows: Classroom Performance, Personal Qualifications for General Business Teaching, Community and Professional Relations, and Professional Preparation. The Classroom Performance section contained eight characteristics; Personal Qualifications, twenty-one; Community and Professional Relations, nine; and Professional Preparation, seven characteristics.

All eight panel members responded to the first letter and completed the first questionnaire, which asked them to rate each of the characteristics as "Essential," "Desirable but Not Essential," or "Unimportant" for a general business teacher to be effective in the classroom. The eight panel members were asked to revise any of the characteristics to improve them and to add any characteristics that were important, in their opinion, to the evaluation of the effectiveness of a general business teacher. Each panel member returned Questionnaire I by mail to the investigator, and the results were tabulated into Questionnaire II.

Questionnaire II contained the results of Questionnaire I, with additions or deletions suggested by the panel marked on the copy. A letter of explanation instructed the panel members to consider the opinions of the other seven panelists, as well as their own, and the suggestions for revision before they again indicated their choice of category for each characteristic. On Questionnaire II, a panelist whose

opinion was not in agreement with the rest of the panel or at least a majority of the members was asked to give a reason for his dissenting opinion.

Questionnaire III gave the opinions of the panel members on the characteristics listed in Questionnaire II and indicated the reasons given by various panelists for any minority opinions. One panel member did not return Questionnaire II, although two mailings were made of the form, so Questionnaire III reported the results of the survey made of the remaining seven panelists. Again in Questionnaire III and its accompanying letter, all panelists were instructed to consider the opinions and indicate a categorization for each characteristic.

Because of the time necessary to correspond with each panelist and receive his reply by mail to all the questionnaires, Questionnaire IV reported the results of Questionnaire III but did not ask the panelists to make further responses. It indicated all the categorizations for the characteristics listed and was accompanied by a copy of the final supervisors' rating scale, which was composed of thirty characteristics on which a majority of the eight panelists (five or more members) indicated that the characteristic would be considered "Essential" for a general business teacher to be effective. Questionnaire IV is shown in Appendix B.

The final listing of characteristics was arranged into three sections on the rating scale: Classroom Performance, Personal Qualifications of General Business Teachers, and Professional Preparation. For each item a set of five blocks was provided so that the immediate supervisor of each general business teacher could rate that teacher on

the basis of his observations in and out of the classroom according to five categories:

1-Poor--Teacher does not have this characteristic.

2-Below Average--Characteristic is rarely observed in this general business teacher.

3-Average--Characteristic is sometimes present and sometimes not observable. Teacher does not have any more or any less of this characteristic than the "average" teacher I know.

4-Above Average--Teacher has some degree of this characteristic, more than an "average" teacher.

5-Excellent--Characteristic is present in this general business teacher to a great degree.

The Supervisors' Rating Scale is shown in Appendix C.

III. PREPARATION OF QUESTIONNAIRE FOR BACKGROUND INFORMATION

One of the purposes of this study was to identify the qualities of a general business teacher judged as effective by his students and his immediate supervisor. Some commonality of background may exist among those teachers who are considered effective teachers, and identification of those common factors might lead to better preparation of teachers for general business.

A questionnaire (shown in Appendix D) was prepared to collect background information about teachers and their preparation for teaching general business. Other studies such as the study by Brooks[1] on

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[1] Lloyd D. Brooks, "The Relationship Between Related Work Experience and Teaching Effectiveness of Vocational Office Education Teachers" (unpublished Doctoral dissertation, The University of Tennessee, Knoxville, 1971).

effectiveness of vocational office education teachers also collected background information. The questionnaire prepared by Brooks was used as a guide in determining the kinds of information that would be desirable. Eight areas were included: years of teaching experience, years of teaching experience in general business, years of outside work experience, degree earned, undergraduate major, professional preparation, certification, and student teaching experience. Background factors of the most effective and least effective teachers in this study will be described in Chapter IV to identify any common background factors that may have contributed to effectiveness or ineffectiveness. It is hoped that some factors identified through this questionnaire will provide information that will be helpful in determining the kinds of experiences that could be provided to prepare teachers for general business classes.

Each of the thirty teachers included in the study completed the questionnaire for background information while the investigator collected information from the students of that teacher on the performance specimen checklist. The questionnaire required only about five minutes for its completion. Most of the teachers remained at the back or front of the room and completed the questionnaire while the investigator explained the study to the students and distributed the checklists.

IV. COMPILING THE PERFORMANCE SPECIMEN CHECKLIST

This study is based on the premise that there are teaching behaviors that are unique to general business teaching and that those behaviors may not be observed in business teachers while they are teaching skill subjects. For that reason, a performance specimen

checklist was compiled from the teaching behaviors observed by general business students in their business classes.

A form was prepared for collecting incidents in general business classes in schools in East Tennessee. The questionnaire asked students to list examples of behaviors that they had observed in their general business teachers that caused them to think, "There's an example of good teaching by my teacher," or "There's an example of poor teaching by my teacher." No attempt was made to select the students in any scientific way. Five of the schools used for this collection were later part of the sample of schools included in the study. In only two of those schools, however, were classes used for both collection of specimens and evaluation of teacher effectiveness. Teachers in the schools were asked to help in collecting the specimens, also, so that the investigator did not have to visit each school personally to collect the specimens. The only stipulation made was that the teacher should not administer the form personally to his own general business students. In order to assure the students that the teacher would not see their responses, the teachers were asked to have the guidance counselor or another teacher administer the questionnaires and seal them in an envelope that could be returned to the investigator.

A total of 538 students from 21 classes of general business were polled for incidents of good and poor teaching behavior. From those students, a total of 1,679 incidents were collected. As the specimens were collected, each one was recorded on a 4 x 6 index card; if more than

one student mentioned a particular incident, the number of times it was mentioned was tallied on the card. Because the wording by students differed for identical incidents, the investigator edited them but kept the incidents specific.

Of those 1,679 incidents, 570 were occurrences of poor teaching behavior and 1,109 were occurrences of good teaching behavior. A majority of those incidents, however, were mentioned more than once by different students. Because of this duplication, a tabulation of the questionnaires showed a total of 189 different specimens of poor teaching behavior and 208 different specimens of good teaching behavior.

Of the 570 incidents cited as poor teaching behavior, those mentioned five or more times were selected for the final performance specimen checklist. Thirty-four specimens qualified under those conditions. One incident of poor teaching behavior was mentioned by 29 different students; others were mentioned from 1 to 24 times. Table 3.1 shows the frequency with which each incident was observed.

Table 3.2 shows the frequency with which each specimen of good teaching behavior was mentioned. One specimen was mentioned by 141 students of the 538 who completed the open-ended questionnaire. From the 208 different incidents cited by students as examples of good teaching on the part of their general business teacher, those occurrences which were mentioned six or more times were used for the final checklist. Thirty-four specimens of good teaching were included in the final form. Thus, the final student evaluation form and the performance specimen checklist contained 68 items; 34 were examples of good teaching behavior and 34 were examples of poor teaching behavior. A sample of the checklist used in this study is shown in Appendix E.

TABLE 3.1

SPECIMENS OF POOR TEACHING BEHAVIORS COLLECTED FROM GENERAL BUSINESS STUDENTS AND INCLUDED IN STUDENTS' PERFORMANCE SPECIMEN CHECKLIST

Specimen Number	Specimen	Frequency of Mention By Students (N=538)
66	Talked too much in class	29
68	Became irritated or angry too easily	24
63	Gave too much homework	21
21	Had pets among the students	19
65	Did not have enough variety in class activities	19
58	Gave pop quizzes	15
19	Did not give any study time in class	14
5	Had an annoying habit of some kind	14
40	Gave boring lectures	13
52	Gave too much work in class--made students work the whole period	12
1	Gave too many tests	12
26	Let some students get by with misbehavior	12
14	Did not explain thoroughly what we were studying	11
16	Could not do some of the problems or made mistakes in working them on the board	9
56	Was not strict enough	9
17	Became angry when students did not understand something or asked questions	8
24	Covered the material too fast	7

TABLE 3.1 (continued)

Specimen Number	Specimen	Frequency of Mention By Students (N=538)
49	Assigned problems that students did not know how to work	6
6	Showed favoritism to either boys or girls in the class	6
54	Let students try to teach some units	6
60	Spent too much time on one subject	6
30	Never gave extra credit for work done for the class	6
20	Assigned all the questions and vocabulary at the end of every chapter	5
53	Brought too many personal experiences into the class	5
8	Assigned homework and then did not talk about or collect it	5
61	Picked on some students too much	5
51	Did not joke with the class	5
11	Gave tests that were too hard	5
3	Was too strict	5
45	Did not show enough films	5
41	Bothered students by walking around the room while they worked or took a test	5
23	Did not make assignments clear	5
32	Did not let students talk to each other in class	5
13	Gave tests that were too long	5

One important quality of a performance specimen checklist is sufficiency. The items included as examples of behavior for a teacher must be comprehensive enough to include all behaviors that students might cite as good or poor performance on the part of their teacher. A method was devised by which the investigator could check the adequacy of the collection of specimens from students against some criterion.

Two general business teachers were selected as the criterion measure for the sufficiency of the collection of performance specimens. They were experienced teachers of general business, one who had taught the course for eleven years and the other who had taught it for five years. They were colleagues of the investigator in high school teaching of general business and were considered by the investigator, their immediate supervisor, and their principal to be very good teachers. Their students were asked in the beginning of the study to complete questionnaire citing the good and poor teaching performances they had observed in the two teachers. Those sets of questionnaires were held as a check on the adequacy of the sample of specimens collected. When approximately five hundred students in twenty-one classes of general business taught by twenty-one different teachers had completed the questionnaires and their specimens had been recorded and tabulated, the investigator felt the sampling was adequate. At that point, the envelopes containing the performance observations collected from the students of the two teachers used as criterion measures were opened and checked against those already collected to see if any new incidents appeared. All the specimens mentioned by the two teachers' students

TABLE 3.2

SPECIMENS OF GOOD TEACHING BEHAVIORS COLLECTED FROM GENERAL BUSINESS STUDENTS AND INCLUDED IN STUDENTS' PERFORMANCE SPECIMEN CHECKLIST

Specimen Number	Specimen	Frequency of Mention By Students (N=538)
67	Explained thoroughly and covered the material well	141
4	Helped students individually	64
46	Repeated an explanation as many times as needed for students to understand	41
62	Told students what would be on tests and when tests would be given	39
36	Used films and filmstrips in class	38
55	Had class discussions which allowed everyone to take part	36
25	Used the chalkboard to explain problems and to outline lessons	35
47	Gave time in class to study or do homework	30
18	Brought in guest speakers	30
15	Reviewed material well just before a test	28
12	Let students express their opinions and ask questions in class	26
42	Had a variety of activities so that class did not get dull	24
59	Gave tests that were not difficult and that covered only what we had studied	23
57	Was pleasant with the students	23
37	Brought in and had students bring in supplementary materials on the subject	20

TABLE 3.2 (continued)

Specimen Number	Specimen	Frequency of Mention By Students (N = 538)
7	Was well prepared for class	20
33	Had good class discipline	19
34	Used many references and practical examples and ideas to explain points	19
48	Controlled his or her temper very well	
43	Told jokes to relax the class	17
39	Never left the room except for emergencies	16
22	Made the course practical by helping students see how it applies to their lives	14
28	Did not give much homework	14
38	Reviewed homework, assignments, and tests to help students better understand	14
35	Gave projects for extra credit	13
2	Used actual business forms, such as checks, to help students understand the topic	12
9	Used the overhead projector to show materials about the topic being discussed	11
27	Took the class on field trips	9
50	Graded fairly	9
10	Let students go to the library to get additional information	9
64	Gave students responsibility for their learning by assigning outside written work	9
44	Gave a reasonable amount of time for students to turn in make-up work	8
29	Gave advance notice about anything the class would be doing	6

were already recorded on the index cards as having been mentioned by students surveyed. Since no new specimens appeared, the investigator discontinued the collection of specimens and considered the sample adequate for the compilation of the final performance specimen checklist.

In order to have a method of validating the checklist and checking it for sufficiency, an overall rating was included at the end of it so that the students could assign an overall category to the teaching performance of their teacher, based on all their observations in class. Five categories were included: A, Excellent; B, Above Average; C, Average; D, Below Average; and F, Poor. In addition to checking the behaviors they had observed in their teacher, the students then could check one category which they felt best described their teacher's overall performance in general business teaching.

V. SELECTION OF THE SAMPLE

Tennessee geographically divides itself into three major areas: East, Middle, and West Tennessee. Because of the east-to-west length of the state, high schools in the three areas are widely separated from each other. Therefore, this study was limited to East Tennessee.

Selection of General Business Teachers for the Study

In the fall of the year, the State Department of Education in Tennessee receives from each school in the state a report of teacher assignments for the school year. Those schools in East Tennessee send their reports to one of three regional offices of the State Department of Education, located at Tennessee Technological University at Cookeville, East Tennessee State University at Johnson City, or The University of

Tennessee at Knoxville. The investigator contacted those three offices for a list of general business teachers in East Tennessee schools. No such list was available, but the Cookeville and Johnson City offices compiled a list of all business teachers in the schools which reported to them. With those lists, the investigator was able to contact by mail the principal of each school, explain the proposed study, and ask for the name or names of general business teachers in the school. Letters with self-addressed, stamped envelopes enclosed were sent to the principals of forty-six high schools in the areas served by the Cookeville and Johnson City regional offices. Each letter asked the principal to check the name of the teacher who taught general business classes and to add or delete any names needed to make the list correct.

Replies were received from thirty-nine of the forty-six principals contacted by letter. A second letter was sent to those seven principals who had not replied to the first inquiry. When no reply was received from five principals after the second letter, their schools were removed from the list of prospects. The investigator felt that school administrators who did not reply to either of two letters which explained the study would be very reluctant participants if chosen as samples for the study.

The investigator visited the Knoxville regional office of the State Department of Education at The University of Tennessee and was permitted to use the office records to list the teachers of general business classes in seventy-three schools which reported to that regional office.

All of the schools were listed on 4 x 6 index cards, along with the school address, name of the principal or immediate supervisor, and

the names of the general business teachers in the school. The list amounted to 102 schools. The cards were shuffled so that they were in no particular order, and then they were numbered on the back from 1 to 102, so that the investigator would have no clue to names on the cards.

Thirty general business teachers were to be included in the study. With the cards prenumbered, the investigator chose the odd-numbered cards for inclusion in the study, choosing forty teachers for the first mailing. Forty were selected because of the probability that some teachers would be unable to participate. Letters of explanation were sent to those teachers, explaining the study, their role, the time needed, and the role of their immediate supervisors. Included with the teacher's letter was a letter to the immediate supervisor, explaining the study and his role. Each teacher was asked to talk with the immediate supervisor and decide whether they would be willing to participate. Each teacher also was sent a form on which to indicate his willingness to participate, whether or not he wanted a summary of the results of the study on its completion, the times of day at which he taught general business, the name of his immediate supervisor, and the approximate number of students in the general business classes. A form was included for the immediate supervisor which asked him to check that he was willing to participate and to check whether or not he would like a summary of the results of the study.

Of the forty teachers contacted by letter, twenty-four replied that they would like to be included in the study. Five teachers replied that their schools did not offer general business. One teacher replied that she was not at present teaching the general business classes, although

her school did offer the course. Three teachers asked that they be excluded from the study. One teacher was not certified to teach any business subjects and was teaching only one general business class; because of his lack of prepartion for teaching that course, he asked to be excluded. Another teacher asked to be omitted because she was a first-year teacher and preferred not to be evaluated this first year. A third teacher asked to be excluded because a sudden change in the course offerings and the loss of a teacher in the department had caused a teaching situation in general business which she felt was not desirable for the study.

No reply was received from seven teachers; a follow-up letter, with duplicate copies of the materials sent in the first letter and a self-addressed, stamped envelope for a reply, was sent. No replies came from those seven teachers after the second letter.

In order to obtain a sample of thirty teachers, seven more teachers were contacted by mail, asking for their participation. Of those seven, two agreed to participate in the study. No reply was received from three teachers, and no reply was received from follow-up letters sent to them. One teacher replied that general business was not offered in his school, and another asked to be excluded from the study.

A third mailing was sent to four more teachers. Replies were received from all four, agreeing to participate in the study. At that point, thirty teachers in twenty-two schools had agreed to participate. A letter was then sent to each teacher suggesting a time and day on which the investigator could visit the school to administer the performance

specimen checklist to a general business class, visit with the supervisor and ask him to complete the supervisors' rating scale, and collect background information from the teacher.

Selection of Immediate Supervisors

In the first letter sent to business teachers, they were asked to identify their immediate supervisor in the school. An immediate supervisor was defined as the principal, department head or chairman, or supervisor who is closest to the teacher, who knows the teacher and his work--the person to whom the teacher is directly responsible. In twenty-seven cases, the teachers indicated that the principal of the school was the immediate supervisor; in one school, the immediate supervisor was the assistant principal; and in two cases, the department head filled that capacity. Each immediate supervisor was given a checksheet by the general business teacher and was asked to indicate his willingness to participate in the study. An accompanying letter explained the study, the role of the immediate supervisor, and the procedures that would be followed in collecting the data. Each supervisor was asked to indicate whether or not he would like a summary of the findings of the study when it was completed. Each of the thirty immediate supervisors contacted agreed to participate and asked to receive a copy of the summary of the findings when the study was completed.

Selection of General Business Classes

On the checksheet returned to the investigator indicating his willingness to participate in the study, the general business teacher

was asked to indicate the time of day during which he taught his general business classes. As much as possible, trips to the schools were planned so that more than one school could be visited in a single day. For each teacher, one class was chosen at the time of day most practical and convenient for the investigator.

In only one instance was the time schedule altered. One teacher who taught four classes of general business asked that the selection of a class for visitation be made from three of his classes. The fourth class was one formed to accommodate students who had been dropped from various other courses, and the teacher felt that the students might not seriously consider the performances listed and would perhaps respond in a very haphazard fashion.

Seventeen of the teachers visited taught only one general business course each day, so those classes automatically were included in the study. Eight teachers taught two classes a day, three taught three, and two teachers taught four a day. Choices of classes for those thirteen teachers were made by the investigator according to the efficiency and ease of scheduling visits to those schools.

VI. COLLECTION AND CODING OF DATA FOR THE STUDY

All data were collected during a visit by the investigator to the schools of thirty teachers included in the study. During that visit, the teacher completed the questionnaire for background information, the immediated supervisor completed the supervisors' rating scale, and a class of general business students completed the checklists and evaluated their teacher's effectiveness. The data collected then were coded so

that the information could be punched into IBM cards for analysis by a 402 Accounting Machine and an IBM 360/65 computer on The University of Tennessee campus.

Collection of Data

When the performance specimen checklist, the supervisors' rating scale, and the questionnaire for background information had been prepared and all general business teachers had been contacted about a time for the investigator's visit, the investigator traveled to each of the schools of the thirty teachers to visit a general business class.

Upon arriving at the school, the investigator spent about five to ten minutes with the teacher's immediate supervisor, reviewing with him the purposes of the study, the procedure that would be followed while the investigator was in the school, and his role in the collection of data. The supervisors' rating scale was given to the supervisor at that time, if he were at the school, and he was given the choice of completing the form immediately or mailing it to the investigator later. If he preferred to keep the form and mail it later or if he were absent from the school at the time of the investigator's visit, a self-addressed, stamped envelope was left with the rating scale to facilitate mailing.

Eleven of the immediate supervisors in the twenty-two schools visited completed the rating scale during the time the investigator was in the school and gave it to her at the end of the visit. Four supervisors, all of whom were principals, were absent from the school at the time of the investigator's visit; the rating scales were left at their offices with self-addressed, stamped envelopes. Their general business teachers

were asked to talk with the supervisors and encourage them to return the rating scale promptly. In two cases, duplicate copies of the rating scale and a letter requesting the completion and return of the form were mailed to the supervisors, after no word was received from them within a week after the investigator's visit. Prompt replies resulted from those reminders.

Three of the immediate supervisors requested that they be allowed to mail the rating scale after the investigator's visit because they had very busy schedules at the time. Self-addressed, stamped envelopes were left with them, and their rating scales were mailed to the investigator.

After explaining the purpose of visiting the business classroom to the supervisor, the investigator went to the class to collect the students' evaluations of teaching. After a short explanation of the purpose of the study, the students were told to consider the items on the checklist and check only those they actually had *observed* in their general business teacher's behavior. An example of a specimen was given and the students were asked to indicate whether they understood the steps they were to follow. Assurance was given that no one would see their checklist except the investigator and that the data would be keypunched into IBM cards and no one would be able to identify their evaluations. The students then were given approximately ten minutes to complete the checklist and were encouraged to ask the investigator for help if any difficulty arose.

The teacher was not asked to leave the room while the students completed the questionnaire; however, the students were assured that the teacher would not see their checklists. All teachers either left the room or remained at the back or front of the room. While students completed the checklists, the teachers supplied the information requested on the questionnaire on background information. At the end of approximately five minutes, they had finished the questionnaire; and at the end of approximately ten minutes, the questionnaire was collected from the teachers and the checklists were collected from the students. Immediately before handing in the checklists, the students were asked to check again to be sure they had marked one category which described their overall evaluation of their teacher's performance.

When the information had been collected and all students had returned their checklists, the investigator thanked the class and the teacher for their help and then visited the office of the immediate supervisor to collect the supervisors' rating scale, if it were ready. An average of about thirty minutes was spent in each of the twenty-two schools visited. More time was involved in some schools because of the necessity of waiting for classes or the supervisors.

The investigator found all teachers to be extremely cooperative and gracious. The students were very cooperative, and their attitude made the collection of information an enjoyable experience. Overall, the attitude of the immediate supervisors was one of interest and enthusiasm for such a project as an attempt to aid them in identifying effective teaching.

Coding the Data

For the three kinds of data collected for each general business teacher included in the study, two IBM cards were prepared. Data from the performance specimen checklists were punched into the first card; and in the second card, the data from the questionnaire on background factors and the supervisors' rating scale were punched.

In the first card, the data were coded "1" if a specimen were checked and "0" if the specimen were not checked. The letter grade assigned to the teacher's performance by the student as an overall evaluation was recorded also as a letter grade. For the computer analysis of the data, the computer program assigned the value of 5.0 to an "A" grade; 4.0 to a "B" grade; 3.0 to a "C" grade; 2.0 to a "D" grade; and 1.0 to an "F" grade.

Each of the thirty teachers was given a code number corresponding to the packet of materials used for collecting evaluations from his students. That number was recorded in all the cards for a particular teacher. In card one, columns 1-68 contained codes for the sixty-eight specimens on the performance specimen checklists; column 70 contained the letter grade assigned by the student; column 75 was punched with a "1" code to identify the card as a student evaluation card; columns 77-78 were punched with the number assigned to the teacher; and columns 79-80 contained the student number from the checklist. All checklists were prenumbered with a four-digit code of teacher number and student number. When all data were punched, there was one IBM "1" card for each student who participated in the study, or 719 cards in total.

Card two contained the background data collected from the thirty general business teachers: years of experience in teaching, years of experience in teaching general business, years of outside work experience, college degrees earned, undergraduate major, professional preparation for teaching general business, certification for general business, and student teaching experience in general business. If a teacher were not certified to teach general business, the card was also coded with the number of courses in which he was certified.

The thirty ratings assigned to teachers by their immediate supervisors in this study were coded with ratings of one to five. A rating of 5 was excellent; 4, above average; 3, average; 2, below average; and 1, poor.

In card two, columns 1-14 contained background data; card columns 31-60 contained the supervisor ratings on thirty characteristics; column 75, an identification code of "2"; and columns 77-78, teacher number. One "2" card was prepared for each of the teachers included in the study.

VII. METHOD OF ANALYZING THE PERFORMANCE SPECIMEN CHECKLIST

The sufficiency of the checklist was evaluated by computing the correlation between means of standard E/I scores for thirty teachers and mean standard overall scores for those teachers. Pearson Product Moment Correlation was used for that analysis.

The split-halves method of determining the reliability of the checklist was used. The E/I ratio of the first seventeen E (Effective) specimens and the first seventeen I (Ineffective) specimens was

correlated with the E/I ratio of the second seventeen E and the second seventeen I specimens, using the Pearson Product Moment Correlation formula. An index of reliability was determined by applying the Spearman-Brown Prophecy formula to the correlation coefficient.

Chi-square analysis was used to check the discriminatory power of specimens included on the performance specimen checklist. That item analysis compared the teachers in the upper 27 percent in summed standard scores (most effective teachers) with those in the lower 27 percent (least effective teachers).

VIII. METHOD OF ANALYZING DATA ON TEACHER EFFECTIVENESS

A summed standard score was computed for each teacher. The mean E/I score for each teacher was converted to a standard score and added to the mean overall score, which also was converted to a standard score. Standard scores were computed by using the following formula from Hall:[2]

$$\text{Standard Score} = 10 + 2\left(\frac{\text{Score} - \text{Mean}}{\text{Standard Deviation}}\right) .$$

This formula is a derivative of the forms of standard scores commonly used, the *t*-score and the S scores, both of which are conversions of the Z score. The standard scores in this study have an arbitrarily chosen mean of 10 and standard deviation of 2, for ease in comparing scores and in computing summed scores with equal weight being given to each score in the sum.

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[2] Ralph G. Hall, Jr., "A Study of the Teaching Effectiveness of Community Junior College Instructors as Perceived by Students" (unpublished Doctoral dissertation, The University of Tennessee, Knoxville, 1970), p. 46.

In order to determine whether or not there was any significant correlation between the ratings assigned to their general business teacher by students and those ratings assigned by that teacher's immediate supervisor, Spearman Rank Correlation and Pearson Product Moment Correlation tests were applied to the evaluations. The summed standard scores from the checklists were used as a basis for ranking teachers according to student evaluations, and standard scores from the rating scale were used to rank them according to supervisor evaluations for the Spearman Rank Correlation (rho) test. Those standard scores were used also for correlation by Pearson Product Moment Correlation.

Background factors that were characteristic of the most effective and least effective teachers were contrasted to identify background factors that may differentiate effective teachers from those who are less effective.

Those teachers evaluated by their students and by their immediate supervisors as the most effective and the least effective teachers in this study were grouped according to years of teaching experience, years of teaching experience in general business, and years of outside work experience for one-way analyses of variance. Those analyses determined whether or not there were significant differences among the means of effectiveness scores from student evaluations and scores from supervisor evaluations for teachers with varying amounts of experience.

For this study, those teachers designated as the most effective teachers and least effective teachers were those in the upper and lower 27 percent of the group of 30 teachers. The choice of 27 percent as a group was an arbitrary one; its purpose was to eliminate those teachers in the middle of the group for whom measurements often do not discriminate.

CHAPTER IV

RESULTS OF THE STUDY

I. INTRODUCTION

The major purposes of this study were to identify the qualities of effective general business teachers and to describe the relationship between supervisor evaluation and student evaluation of teaching effectiveness. A performance specimen checklist was used for student evaluation, and a supervisors' rating scale was used for supervisor evaluation. To check the sufficiency and reliability of the performance specimen checklist constructed for this study, correlation formulas were applied to the data. Chi-square analysis was used to determine the discriminatory power of items on the checklist.

Ratings given by immediate supervisors on thirty characteristics of effective general business teachers as identified by eight leaders in the general business field through the DELPHI Technique were analyzed to determine which teachers were considered most effective and least effective by their supervisors and to identify differences in characteristics of the groups.

Background factors in teaching effectiveness were analyzed to determine what commonalities of background existed among the teachers considered most effective by supervisors and students. One-way analysis of variance was applied to effectiveness scores and supervisors' rating scale scores of teachers grouped by years of teaching experience, years of teaching general business, and years of outside work experience.

II. THE PERFORMANCE SPECIMEN CHECKLIST

For each of the thirty teachers visited for the study, students in one class of general business completed the performance specimen checklist. For each teacher, a varying number of students participated, with numbers of students ranging from 14 students for one teacher to 38 for another. The average number per class was 24 students.

From the performance specimen checklist, a tally of the number of Effective (E) and Ineffective (I) specimens checked was obtained. By dividing the total number of E specimens checked for a teacher by the number of I specimens checked for that teacher, an E/I score was computed. The overall rating assigned by students on the checklist was averaged to obtain a mean overall score.

Those scores computed for the checklist were used as a basis for analysis to determine the sufficiency, reliability, and discrimination of the checklist.

Sufficiency and Reliability of the Checklist

The sufficiency of the checklist was checked by computing the correlation between the mean E/I scores for the thirty teachers and their mean overall evaluation scores. Pearson Product Moment Correlation was used. A correlation coefficient of .758 was found for that relationship, indicating that the checklist sufficiently evaluated teaching effectiveness through the specimens included on the list.

The reliability of the checklist was checked by computing the correlation between the ratio of number of specimens checked of the first seventeen E specimens and first seventeen I specimens and the

ratio of specimens checked of the second seventeen E and second seventeen I specimens. When corrected by the Spearman-Brown Prophecy formula to predict the reliability of the entire instrument, that coefficient of .597 was .748. Edwards and Scannell[1] stated that no minimum reliability coefficient can be required for tests; but, the higher the r, the more accurately the data represent the trait being measured. The longer the test, the more likely it is to have a higher reliability coefficient. Edwards and Scannell stated that "forty-five minute classroom tests should have corrected reliability coefficients no lower than .70 and preferably above .80."[2] A reliability coefficienty of .748 on the checklist would therefore appear to be acceptable for this study.

Discriminatory Power of Items on the Checklist

To determine whether each of the items on the checklist administered to the students discriminated between the most effective and least effective teachers, Chi-square analysis was used. The frequency of items checked for the upper 27 percent of effectiveness scores (eight most effective teachers) was compared with the frequency of items checked for the lower 27 percent (eight least effective teachers). The following design was used:

	Number Checked	Number Not Checked
Upper 27 Percent		
Lower 27 Percent		

[1] Allen J. Edwards and Dale P. Scannell, Educational Psychology (Scranton, Pa.: International Textbook Company, 1968), p. 534.

[2] Ibid., p. 593.

Chi-square analysis by computer program BMDO2S, Contingency Table Analysis, available from The University of Tennessee Computing Center, showed that nine Chi-square values were not significant at the .05 level. Two additional values were significant at the .05 level, but not at the .01 level. Fifty-six items included on the checklist were discriminatory at the .01 level, and fifty-two of those items were significant at the .001 level. Significant values for the .05, .01, and .001 levels are 3.841, 6.635, and 10.827.

Those nine items which did not discriminate between the most effective and least effective teachers were the following:

9 Used the overhead projector to show materials about the topics being discussed.

18 Brought in guest speakers.

20 Assigned all the questions and vocabulary at the end of every chapter.

35 Gave projects for extra credit.

39 Never left the room except for emergencies.

44 Gave a reasonable amount of time for students to turn in make-up work.

56 Was not strict enough.

58 Gave pop quizzes.

64 Gave students responsibility for their learning by assigning outside written work.

Two additional items which were significant at the .05 level but not at the .01 level were:

50 Graded fairly.

60 Spent too much time on one subject.

Those four items which were significant at the .01 level but not at the .001 level were:

4 Helped students individually.

7 Was well prepared for class.

19 Did not give any study time in class.

28 Did not give much homework.

The ten specimens with the highest discrimination were the following:

3 Was too strict.

10 Let students go to the library to get additional information.

51 Did not joke with the class--made students work the whole period.

54 Let students try to teach some units.

55 Had class discussions which allowed everyone to take part.

57 Was pleasant with the students.

65 Did not have enough variety in class activities.

67 Explained thoroughly and covered the material well.

68 Became irritated or angry too easily.

Those items with the highest Chi-square values were specimens 10, 51, and 54. The number of times each specimen was checked for the most effective and least effective teachers, the percentage of checks for each specimen for the two groups, and the Chi-square value of all specimens are shown in Table 4.1. The performance specimen checklist used in this study, from which those sixty-eight items came, is shown in Appendix E.

TABLE 4.1

CHI-SQUARE ITEM ANALYSIS OF THE TEACHER PERFORMANCE CHECKLIST

Specimen Number	Effective or Ineffective Specimen	Frequency Checked by Students of Most Effective Teachers (N = 209)		Frequency Checked by Students of Least Effective Teachers (N = 182)		Chi-square
		Number	Percentage	Number	Percentage	
1	I	14	6.7	51	28.0	31.914
2	E	179	85.7	109	59.9	33.259
3	I	9	4.3	51	28.0	42.120
4	E	182	87.1	137	75.3	9.027
5	I	17	8.1	51	28.0	26.783
6	I	35	16.8	60	33.0	13.916
7	E	184	88.0	137	75.3	10.783
8	I	12	5.7	31	17.0	12.672
9	E	63	30.1	54	29.7	0.010[a]
10	E	107	51.2	28	15.4	55.191
11	I	26	12.4	54	29.7	17.747
12	E	199	95.2	143	78.6	24.586
13	I	17	8.1	49	26.9	24.478
14	I	4	1.9	41	22.5	40.589
15	E	160	86.6	99	54.4	21.362
16	I	26	12.4	49	26.9	13.163
17	I	12	5.7	42	23.1	24.560
18	E	117	56.0	87	47.8	2.608[a]
19	I	7	3.4	22	12.1	10.819
20	I	53	25.4	47	25.8	0.011[a]
21	I	32	15.3	61	33.5	17.787
22	E	185	88.6	121	66.5	27.759
23	I	4	1.9	26	14.3	21.020

TABLE 4.1 (continued)

Specimen Number	Effective or Ineffective Specimen	Frequency Checked by Students of Most Effective Teachers (N = 209)		Frequency Checked by Students of Least Effective Teachers (N = 182)		Chi-square
		Number	Percentage	Number	Percentage	
24	I	20	9.5	64	35.2	37.784
25	E	160	76.6	106	58.2	15.002
26	I	27	12.9	55	30.2	17.570
27	E	43	20.6	1	0.6	39.061
28	E	106	50.7	64	35.2	9.576
29	E	172	82.3	107	58.8	26.297
30	I	16	7.7	41	22.5	12.279
31	E	123	58.9	60	33.0	26.180
32	I	30	14.4	64	35.2	23.072
33	E	160	76.6	90	49.5	30.997
34	E	160	76.6	97	53.3	23.362
35	E	86	41.2	62	34.1	2.074[a]
36	E	127	60.8	76	41.8	14.079
37	E	153	73.2	85	46.7	28.688
38	E	190	90.9	129	70.9	25.980
39	E	117	56.0	111	61.0	11.004[a]
40	I	35	16.8	69	37.9	22.323
41	I	43	20.6	66	36.3	11.911
42	E	81	38.8	23	12.7	33.992
43	E	67	32.1	24	13.2	19.400
44	E	133	63.6	115	63.2	0.008[a]
45	I	79	37.8	120	65.9	30.813
46	E	177	84.7	100	55.0	41.668
47	E	186	89.0	119	65.4	31.609
48	E	173	82.8	116	64.8	18.289
49	I	39	18.7	72	39.6	20.903

TABLE 4.1 (continued)

Specimen Number	Effective or Ineffective Specimen	Frequency Checked by Students of Most Effective Teachers (N = 209)		Frequency Checked by Students of Least Effective Teachers (N = 182)		Chi-square
		Number	Percentage	Number	Percentage	
50	E	173	82.8	131	72.0	6.556[b]
51	I	32	15.3	96	52.8	61.918
52	I	24	11.5	78	42.9	49.663
53	I	9	4.3	26	14.3	11.888
54	I	79	37.8	5	2.8	70.859
55	E	179	85.7	100	55.0	44.862
56	I	7	3.4	10	5.5	1.077[a]
57	E	173	82.8	95	52.2	42.185
58	I	119	56.9	99	54.4	0.255[a]
59	E	168	80.4	115	63.2	14.389
60	I	11	5.3	20	11.0	4.369[b]
61	I	26	12.4	72	39.6	38.097
62	E	162	77.5	109	59.9	14.202
63	I	16	7.7	41	22.5	17.279
64	E	76	36.4	51	28.0	3.087[a]
65	I	20	9.6	70	38.5	45.830
66	I	23	11.0	60	33.0	28.062
67	E	179	85.7	100	55.0	44.862
68	I	8	3.8	50	27.5	43.052

[a] Not significant at the .05 level; significant value at .05 level is 3.841.

[b] Significant at the .05 level but not at the .01 level; significant value at .01 level is 6.635. All values without footnotes are significant at the .001 level; significant value at .001 level is 10.827.

Computation of Effectiveness Scores from the Checklist

Selected classes of students of the thirty teachers included in this study were asked to complete performance specimen checklists on which they checked behaviors they personally had observed in their general business teachers in class. Each student was asked to check the specimens he observed and to assign an overall rating to the teacher from a group of five ratings, A through F.

An E/I score was computed for each teacher from the checklists completed by his students, and a mean E/I score and mean overall score were obtained from the ratings given by the students. For each teacher, the mean E/I score and mean overall score were converted to standard scores for purposes of analysis. The following formula was used:

$$\text{Standard Score} = 10 + 2 \left(\frac{\text{Score} - \text{Mean}}{\text{Standard Deviation}} \right) .$$

The resulting array of scores had a mean of 10 and a standard deviation of 2 for each kind of score. The summed standard scores, computed by addition of the standard E/I score and the standard overall score, had a mean of 20 and a standard deviation of 4.

Summed standard scores for thirty teachers ranged from 12.554 to 30.402. The most effective teachers (eight teachers) and the least effective teachers (eight teachers) were compared to determine differences in the kinds of performances observed by students. Table 4.2 shows the mean E/I and overall scores and standard scores for all teachers. The mean of all E/I scores was 3.540; for the overall scores, it was 3.749. Those two distributions had standard deviations of 1.657 and .395. The resulting standard scores had mean of 10.0 and standard deviations of

TABLE 4.2

TEACHING EFFECTIVENESS SCORES OF THE GENERAL BUSINESS TEACHERS AS PERCEIVED BY THEIR STUDENTS

Teacher Number	Mean E/I Score	Mean Overall Score	Standard E/I Score	Standard Overall Score	Summed Standard Score
1	3.299	4.350	9.709	13.043	22.752
2	1.848	3.286	7.958	7.656	15.613
3	3.515	3.950	9.970	11.018	20.988
4	2.459	3.576	8.695	9.124	17.819
5	1.504	3.368	7.543	8.071	15.613
6	5.489	4.000	12.352	11.271	23.623
7	3.864	3.889	10.391	10.709	21.100
8	5.105	4.481	11.889	13.706	25.595
9	0.895	2.909	6.807	5.747	12.554
10	3.311	4.167	9.724	12.116	21.840
11	1.925	3.261	8.051	7.529	15.580
12	2.843	3.733	9.159	9.919	19.078
13	8.878	4.531	16.443	13.959	30.402
14	1.752	3.375	7.842	8.106	15.948
15	4.329	3.867	10.952	10.597	21.550
16	2.034	3.615	8.182	9.322	17.504
17	5.624	4.115	12.515	11.853	24.369
18	3.569	3.591	10.035	9.200	19.235
19	3.391	4.185	9.820	12.208	22.028
20	2.205	3.632	8.389	9.408	17.796

TABLE 4.2 (continued)

Teacher Number	Mean E/I Score	Mean Overall Score	Standard E/I Score	Standard Overall Score	Summed Standard Score
21	4.430	3.840	11.074	10.461	21.535
22	4.219	4.074	10.820	11.646	22.465
23	4.370	3.385	11.002	8.157	19.159
24	2.277	3.565	8.476	9.068	17.544
25	4.403	3.581	11.042	9.149	20.191
26	2.929	3.333	9.263	7.894	17.156
27	3.182	3.448	9.568	8.476	18.044
28	1.504	3.263	7.543	7.539	15.082
29	5.754	4.154	12.672	12.051	24.723
30	5.292	3.958	12.115	11.058	23.173
$\bar{X}$	3.540	3.749	10.000	10.000	20.000
S.D.	1.657	0.395	2.000	2.000	4.000

2.0; the summed standard scores had a mean of 20.0 and a standard deviation of 4.0. Appendices F and G show the tally of checks received by each teacher on each specimen and the total E, I, and overall scores.

The scores in Table 4.2 were developed from evaluations of teacher effectiveness by students on the checklist. For teacher one, for example, twenty students checked 508 effective specimens and 154 ineffective specimens on their checklists. By dividing the number of effective specimens checked by the number of ineffective specimens checked, an E/I

ratio of 3.299 was obtained. The mean overall score was computed by assigning values to the overall ratings checked by students at the bottom of the checklist; an "A" rating was assigned 5.0; "B," 4.0; "C," 3.0; "D," 2.0; and "F," 1.0. Teacher one received a total of 87 points for nine evaluations of "A," nine evaluations of "B," and two evaluations of "C" from twenty students. That mean score then was 4.350, resulting from dividing 87 by 20 students.

Those scores of 3.299 and 4.350 were converted to standard scores by using the formula for standard scores with a mean of 10.0 and a standard deviation of 2.0:

$$\text{Standard Score} = 10 + 2 \left(\frac{\text{Score} - \text{Mean}}{\text{Standard Deviation}} \right) .$$

For the E/I evaluations, the mean was 3.540 and the standard deviation was 1.657. For overall evaluations, the mean was 3.749 and the standard deviation was 0.395. By applying that formula to the mean E/I score and the mean overall score for teacher one, standard scores of 9.709 and 13.043 were computed. Addition of those two standard scores resulted in a summed standard score or teaching effectiveness score of 22.752. All standard scores were computed in a similar manner by use of a Fortran program written for the IBM 360/65 computer housed in The University of Tennessee Computing Center at Knoxville.

III. TEACHER BACKGROUND

Thirty general business teachers who were included in the study were asked to furnish background information about eight factors: years of experience in teaching, years of experience in teaching general business, years of outside work experience, college degrees earned,

major in undergraduate school, professional preparation for teaching general business, certification for teaching general business, and student teaching experience in general business.

Twenty-nine of the teachers had completed work for a bachelor's degree; one teachers had earned a master's degree. Two of the teachers were first-year teachers; one had taught for only three months at the time the study was conducted. In addition, nine other teachers had taught previously but were in their first year of teaching the general business course.

Two of the thirty teachers had no work experience outside teaching; one of those teachers was also a first-year teacher. The other teacher had taught seven years and had taught general business each of those seven years. The years of work experience of the remaining twenty-eight teachers ranged from one to twenty-eight years, with a mean of approximately five years. No attempt was made in the study to analyze the types of work experience.

The years of teaching experience of the twenty-eight teachers who were experienced teachers ranged from two to twenty-three years; those years totaled 218, with an average of 7.8 years per teacher. Three teachers were in their second year of teaching; five were third-year teachers; two were fourth-year teachers; five were fifth-year teachers; one was a sixth-year teacher; and four were seventh-year teachers. Seven teachers had ten or more years of teaching experience. One teacher had taught ten years; one, eleven years; one, fifteen years; three, twenty years; and one, twenty-three years.

Three teachers had worked for one year in some position outside teaching. Four teachers had two years of work experience; nine had three years; one had six years; three had seven years; one had thirteen years; and one had twenty-eight years of work experience.

Although the highest number of years of teaching experience of the thirty teachers was twenty-three years, only one teacher had taught general business for more than ten years. Nine of the teachers were in their first year of teaching general business; three had taught the course for only one year prior to the current year. Two teachers were in their third year of teaching the course; one was teaching it for the fourth year; and five had five years of experience. Three teachers were teaching it for the sixth year; three, for the seventh year; and one for the eighth year. The two teachers with the most teaching experience, twenty and twenty-three years, had taught general business for ten years. One teacher with eleven years of teaching experience had taught general business for each of those eleven years. Table 4.3 shows the years of teaching experience, years of general business teaching, and years of work experience outside teaching for the thirty teachers in the study.

The teachers had varied backgrounds of preparation for teaching. Of thirty teachers, fifteen had majors in business education as undergraduate students; one of those fifteen teachers had a second major in social studies. Twelve teachers had majored in some area of business administration, including the areas of marketing, transportation, management, and office administration. Two teachers had major areas in social studies, with one of those teachers having a double major in social

TABLE 4.3

YEARS OF TEACHING EXPERIENCE, GENERAL BUSINESS TEACHING, AND WORK EXPERIENCE OF THE THIRTY TEACHERS INCLUDED IN THE STUDY

Years of Teaching Experience	Years of Teaching in General Business	Years of Work Experience
0	0	1
1	1	0
2	1	10
2	2	4
2	1	6
3	3	3
3	2	3
3	1	3
3	3	3
3	1	3
4	1	3
4	2	3
5	4	28
5	5	2
5	1	3
5	5	5
5	5	10
6	6	1
7	7	0
7	7	4

TABLE 4.3 (continued)

Years of Teaching Experience	Years of Teaching in General Business	Years of Work Experience
7	7	2
7	1	2
10	5	10
11	5	13
11	11	2
15	8	1
20	6	3
20	6	5
20	10	5
23	10	4

NOTE: Data are arranged in order by years of teaching experience; there is no relationship between the order in which data are presented in this table and teacher numbers used to identify data in other tables. Such an arrangement was used in order to avoid identification of any individual teacher included in the study.

studies and secretarial science. One teacher was a home economics major in undergraduate school. Table 4.4 shows the undergraduate majors of all the teachers.

Nineteen of the teachers had completed an undergraduate methods course in the teaching of basic business subjects. Eleven had not taken a methods course in their undergraduate work, and eight of those teachers were undergraduate majors in business education. Eleven of the teachers had taken a graduate course in methods of teaching basic business subjects;

TABLE 4.4

UNDERGRADUATE MAJOR OF TEACHERS INCLUDED IN THE STUDY

Undergraduate Major	Number of Teachers in Major Area
Business Education	14
Business Education and Social Studies	1
Business Administration (Marketing, Transportation, Management, Office Administration, Secretarial Science, and General Business Administration)[a]	13
Social Studies	1
Home Economics	1
Total Number of Teachers in Study	30

[a] One teacher with a major in Secretarial Science also had a major area in Social Studies.

six of those teachers were not business education majors. Table 4.5 shows the professional preparation of the teachers for general business teaching.

A questionnaire was used to collect information from the teachers about their background and professional preparation for teaching. That questionnaire was completed at the time of the investigator's visit to the school in which each teacher taught. Appendix D shows a copy of the questionnaire used in the study.

IV. COMPARISON OF MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS

Two groups of teachers identified in this study, most effective and least effective teachers, were compared according to years of teaching experience, years of teaching general business, and years of

TABLE 4.5

PROFESSIONAL PREPARATION FOR GENERAL BUSINESS TEACHING OF THE THIRTY TEACHERS INCLUDED IN THE STUDY

Type of Professional Preparation	Number of Teachers
Undergraduate Methods Course in the Teaching of Basic Business Subjects	19
Graduate Methods Course in the Teaching of Basic Business Subjects	11
Attendance at Workshop on the Teaching of Basic Business Subjects	5
Attendance at Eight Weeks of In-Service Sessions on the Teaching of the General Business Course	6

outside work experience. One-way analysis of variance was used to test whether there were significant differences among the mean effectiveness scores and the standard scores from the supervisors' rating scale for teachers in the most effective group and least effective group categorized according to varying years of experience.

Analysis for Varying Years of Teaching Experience

Sixteen teachers in the most effective and least effective groups were categorized according to years of teaching experience as follows: (1) 0-3 years, (2) 4-6 years, (3) 7-9 years, and (4) 10 or more years. One-way analyses of variance were applied to those teaching effectiveness scores and scores from the supervisors' rating scale for the most effective and least effective teachers.

Analysis of teaching effectiveness scores. Table 4.6 shows the teaching effectiveness scores of the most effective and least effective

TABLE 4.6

TEACHING EFFECTIVENESS SCORES OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS GROUPED ACCORDING TO YEARS OF TEACHING EXPERIENCE

0-3 Years	4-6 Years	7-9 Years	10 or More Years
24.723	25.595	15.948	30.402
24.369	15.082	15.613	17.504
23.623			15.613
23.173			15.580
22.752			12.554
22.465			
17.156			
$\bar{X}$ = 22.609	$\bar{X}$ = 21.339	$\bar{X}$ = 15.781	$\bar{X}$ = 18.331

teachers grouped by years of teaching experience. Teachers with 0-3 years of teaching experience had the highest mean effectiveness score of the four groups, with a mean of 22.609. Teachers with 4-6 years of experience in teaching had a mean effectiveness score of 20.339, and those with 10 or more years of experience had a mean score of 18.331. Those with 7-9 years of teaching experience had the lowest effectiveness score, with a mean of 15.781.

Those groups of scores were subjected to a one-way analysis of variance, and the results of that test are shown in Table 4.7. The computed F-ratio of 1.219 was not significant at the .05 level. The level of significance for that ratio was 3.49. This lack of significant

TABLE 4.7

ANALYSIS OF VARIANCE ON TEACHING EFFECTIVENESS SCORES OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS CATEGORIZED ACCORDING TO NUMBER OF YEARS OF TEACHING EXPERIENCE

Source of Variability	Degrees of Freedom	Sum of Squared Deviations	Mean Square	F-Ratio
Between Groups	3	97.120	32.373	1.219[a]
Within Groups	12	318.731	26.561	
Total	15	415.851		

[a] Not significant at the .05 level; 3.49 is required for a significant value.

differences among the effectiveness scores of the more effective and least effective teachers indicates that variations in years of teaching experience were not significant factors in effectiveness or ineffectiveness.

Analysis of scores on supervisors' rating scale. Scores of the eight most effective and eight least effective teachers, as evaluated by their immediate supervisors on the rating scale, were grouped according to varying years of experience in teaching of 0-3 years, 4-6 years, 7-9 years, and 10 or more years. Table 4.8 shows those scores in groups. Teachers with 4-6 years of teaching experience had the highest mean score according to supervisor evaluations, with an average score of 11.490. Those with 0-3 years of experience averaged 10.700 on the rating scale; those with 7-9 years, 6.232; and those with 10 or more years of teaching experience, 7.990.

TABLE 4.8

STANDARD SCORES ON SUPERVISORS' RATING SCALE OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS GROUPED ACCORDING TO YEARS OF TEACHING EXPERIENCE

0-3 Years	4-6 Years	7-9 Years	10 or More Years
12.794	12.794	7.647	11.507
11.764	12.536	4.816	7.647
11.678	12.022		7.304
9.105	11.764		5.502
8.161	8.333		
$\bar{X}$ = 10.000	$\bar{X}$ = 11.490	$\bar{X}$ = 6.232	$\bar{X}$ = 7.990

One-way analysis of variance was applied to those groups of scores, and the resulting F-ratio of 4.3895 was significant at the .05 level. A ratio of 3.49 was required to be significant at the .05 level. That ratio indicates that there was a difference among supervisor ratings of teachers with varying years of teaching experience. Table 4.9 shows the analysis of variance for scores on the rating scale. In general, supervisors tended to rate teachers with fewer years of teaching experience (0-6 years) as more effective.

Analysis for Varying Years of Experience in Teaching General Business

The most effective and least effective teachers were grouped according to years of experience in teaching general business as follows: (1) 0-2 years, (2) 3-5 years, (3) 6-8 years, and (4) 9 or more years.

TABLE 4.9

ANALYSIS OF VARIANCE ON SCORES ON SUPERVISORS' RATING SCALE OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS CATEGORIZED ACCORDING TO NUMBER OF YEARS OF TEACHING EXPERIENCE

Source of Variability	Degrees of Freedom	Sum of Squared Deviations	Mean Square	F-Ratio
Between Groups	3	56.7765	18.9255	4.3895[a]
Within Groups	12	51.7381	4.3115	
Total	15	108.5146		

[a] Significant at the .05 level but not significant at the .01 level; 3.49 is required at the .05 level and 5.95 at the .01 level for significance.

The effectiveness scores from student evaluations and scores from the supervisors' rating scale were used for one-way analyses of variance.

Analysis of teaching effectiveness scores. Those teachers with 3-5 years of experience in teaching the general business course had the highest mean score: 27.563. Only two teachers were in that group; one was the teacher evaluated as the most effective teacher in the opinion of the students, with an effectiveness score of 30.402. The other groups of teachers ahd average scores of 20.571 (0-2 years), 18.000 (6-8 years), and 15.029 (9 or more years).

The F-ratio resulting from a one-way analysis of variance among the means of those groups was 3.070, which was not significant at the .05 level. A ratio of 3.49 was required for significance at that level. Tables 4.10 and 4.11 show the scores grouped by years of teaching general business and results of the one-way analysis of variance test applied to those scores.

TABLE 4.10

TEACHING EFFECTIVENESS SCORES OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS GROUPED ACCORDING TO YEARS OF TEACHING GENERAL BUSINESS

0-2 Years	3-5 Years	6-8 Years	9 or More Years
24.369	30.402	25.695	17.504
23.623	24.723	15.613	12.554
23.173		15.613	
22.752		15.580	
22.465			
17.156			
15.948			
15.082			
$\bar{X}$ = 20.571	$\bar{X}$ = 27.563	$\bar{X}$ = 18.100	$\bar{X}$ = 15.029

TABLE 4.11

ANALYSIS OF VARIANCE OF TEACHING EFFECTIVENESS SCORES OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS CATEGORIZED ACCORDING TO NUMBER OF YEARS OF TEACHING EXPERIENCE IN GENERAL BUSINESS

Source of Variability	Degrees of Freedom	Sum of Squared Deviations	Mean Square	F-Ratio
Between Groups	3	180.560	60.187	3.070[a]
Withing Groups	12	235.291	19.608	
Total	15	415.851		

[a] Not significant at the .05 level; 3.49 is required for significance.

Analysis of scores on supervisors' rating scale. A grouping of the scores from the supervisors' rating scale according to years of teaching experience in general business for the most effective and least effective teachers is shown in Table 4.12. Those teachers with 3-5 years of experience in teaching the course were evaluated highest by their supervisors, with an average score of 11.164. Those with 0-2 years of experience received an average rating of 10.700; those with 6-8 years of experience in teaching general business, an average of 8.619; and those with 9 or more years, an average of 5.502.

Table 4.13 shows the results of a one-way analysis of variance test applied to those scores. The resulting F-ratio of 2.1735 was lower than the 3.49 required to show a significant difference among the means of those groups.

Analysis for Varying Years of Outside Work Experience

The teachers in the most effective and least effective groups were categorized according to their years of outside work experience as follows: (1) 0-3 years, (2) 4-6 years, and (3) 7 or more years. One-way analysis of variance then was applied to those groups of scores to determine whether there were significant differences among the means of the groups of effectiveness scores from the checklists and the scores from the supervisors' rating scale.

Analysis of effectiveness scores. Table 4.14 shows the scores from the checklist for the sixteen teachers, grouped according to years of outside work experience. Those teachers with 0-3 years of experience had an average of 19.774, those with 4-6 years of experience had a mean score of 17.884, and the teachers with 7 or more years of experience had an average score of 27.286.

TABLE 4.12

STANDARD SCORES ON SUPERVISORS' RATING SCALE OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS GROUPED ACCORDING TO YEARS OF TEACHING GENERAL BUSINESS

0-2 Years	3-5 Years	6-8 Years	9 or More Years
12.794	12.536	12.794	5.502
11.764	12.022	11.507	
11.678	11.764	7.647	
9.105	8.333	7.647	
8.161		7.304	
		4.816	
$\bar{X}$ = 10.700	$\bar{X}$ = 11.164	$\bar{X}$ = 8.619	$\bar{X}$ = 5.502

TABLE 4.13

ANALYSIS OF VARIANCE ON SCORES ON SUPERVISORS' RATING SCALE OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS CATEGORIZED ACCORDING TO NUMBER OF YEARS OF TEACHING EXPERIENCE IN GENERAL BUSINESS

Source of Variability	Degrees of Freedom	Sum of Squared Deviations	Mean Square	F-Ratio
Between Groups	3	38.2048	12.7349	2.1735[a]
Within Groups	12	70.3098	5.8591	
Total	15	108.5146		

[a] Not significant at the .05 level; 3.49 is required for significance.

TABLE 4.14

TEACHING EFFECTIVENESS SCORES OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS GROUPED ACCORDING TO YEARS OF OUTSIDE WORK EXPERIENCE

0-3 Years	4-6 Years	7 or More Years
25.595	23.173	30.402
24.723	22.465	24.369
23.623	15.613	
22.752	15.613	
17.504	12.554	
17.156		
15.948		
15.58		
15.082		
$\bar{X}$ = 19.774	$\bar{X}$ = 17.884	$\bar{X}$ = 27.386

Table 4.15 shows the result of applying a one-way analysis of variance test to those groups of scores. The resulting F-ratio of 3.011 was not significant at the .05 level. A ratio of 3.80 is required for significance at the .05 level for 2 and 13 degrees of freedom.

Analysis of scores from the supervisors' rating scale. Only one teacher evaluated as being in the upper or lower 27 percent on supervisor evaluations had seven or more years of outside work experience. That teacher had a rating scale score of 12.022; those teachers with 0-3 years of work experience had a mean score of 10.216; and those

TABLE 4.15

ANALYSIS OF VARIANCE ON TEACHING EFFECTIVENESS SCORES OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS CATEGORIZED ACCORDING TO NUMBER OF YEARS OF OUTSIDE WORK EXPERIENCE

Source of Variability	Degrees of Freedom	Sum of Squared Deviations	Mean Square	F-Ratio
Between Groups	2	131.659	65.829	3.011[a]
Within Groups	13	284.192	21.861	
Total	15	415.851		

[a] Not significant at the .05 level; 3.80 is required for significance.

with 4-6 years of experience had an average of 6.932. The F-ratio from an analysis of variance test of differences among those mean scores was 2.6625, below the 3.80 required for significance at the .05 level. Tables 4.16 and 4.17 show the analysis.

V. STUDENT EVALUATION OF TEACHING EFFECTIVENESS

From the evaluations by students of their teachers on the performance specimen checklists, summed standard scores were computed for the thirty teachers. The upper and lower 27 percent of the teachers, based on their effectiveness scores from that student evaluation, were identified for comparison and description.

Description of Teachers Considered by Students to Be Most Effective

The eight most effective teachers in student evaluation had varied backgrounds of preparation for teaching general business. In years of teaching, their experience ranged from two years to eleven years. Three

TABLE 4.16

STANDARD SCORES ON SUPERVISORS' RATING SCALE OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS GROUPED ACCORDING TO YEARS OF OUTSIDE WORK EXPERIENCE

0-3 Years	4-6 Years	7 or More Years
12.794	8.333	12.022
12.794	7.647	
12.536	4.8[illegible]	
11.764		
11.764		
11.678		
11.507		
9.105		
8.161		
7.647		
7.304		
5.502		
$\bar{X}$ = 10.216	$\bar{X}$ = 6.932	$\bar{X}$ = 12.022

teachers had only two years of experience, three had three years, one had six years, and one had eleven years of teaching experience.

Three of those teachers had only one year's teaching experience in general business. Two teachers had two years of experience, one had three years, one had five years, and one had six years of experience in the course. All eight teachers had some work experience outside of

TABLE 4.17

ANALYSIS OF VARIANCE ON SCORES ON SUPERVISORS' RATING SCALE OF THE MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS CATEGORIZED ACCORDING TO NUMBER OF YEARS OF OUTSIDE WORK EXPERIENCE

Source of Variability	Degrees of Freedom	Sum of Squared Deviations	Mean Square	F-Ratio
Between Groups	2	31.5333	15.7666	2.6625[a]
Within Groups	13	76.9813	5.9216	
Total	15	108.5146		

[a] Not significant at the .05 level; 3.80 is required for significance.

teaching, ranging from one year to thirteen years, with an average of 5.4 years.

The undergraduate preparation of those eight teachers varied widely. Three of them were majors in business education at the undergraduate level, two had majored in business administration, two had speicalized in marketing, and one was a social studies major. Five of the teachers had taken an undergraduate methods course in the teaching of basic business subjects, and one of those teachers and two of the remaining seven teachers had included a methods course in teaching basic business subjects in their graduate work. None of those eight teachers had student teaching experience in general business.

Two of the eight most effective teachers had attended workshops in previous years on teaching basic business subjects. Those two teachers and one additional teacher had participated in an eight-week in-service program for teachers of general business.

Five of the teachers were certified to teach general business. Those three who were not certified in general business were certified in areas which would contribute to a knowledge of the content of the general business course: distributive education, business law, social studies, and economics. One person was certified in distributive education and business law, a second in business law and social studies, and a third in business law and economics as well as other courses.

Description of Teachers Considered Least Effective by Students

The 27 percent of the teachers who were evaluated as least effective by their students are described here in an attempt to identify any commonalities of experiences or background which may have contributed to that evaluation. Six of those teachers had completed an undergraduate course in business education. Five of them had included a methods of teaching basic business courses in their undergraduate work. Two of those five teachers, and one additional teacher, had taken a graduate methods course in teaching basic business subjects. None of those eight teachers had experience in student teaching in general business. Two had participated in workshops on teaching general business, and two had completed an in-service program on teaching general business.

Their years of experience ranged from no experience to twenty-three years of experience, with an average of 11.5 years. One teacher was in his first year of teaching. Years of experience in teaching the general business course ranged from no experience to eleven years, with a mean of 5.4 years. All eight of those teachers had work experience outside teaching, ranging from one to five years with a mean of three years.

Six of the teachers were certified to teach the general business course. Those two who were not certified for that course were certified in areas which contribute to the high school curriculum in consumer education. Table 4.18 shows characteristics of both high and low groups. Table 4.19 lists the effectiveness scores for teachers in the most effective and least effective groups in student evaluation. Analysis by *t*-test showed a significant difference in the means of those two sets of scores. The *t*-ratio of 8.603 was significant at the .001 level.

VI. IMMEDIATE SUPERVISOR EVALUATION OF TEACHING EFFECTIVENESS

Immediate supervisors were asked to evaluate the thirty general business teachers on thirty teacher characteristics, rating on a scale of one to five. A total score was computed for each teacher; 150 points were possible. Those scores were converted to standard scores as follows:

$$\text{Standard Score} = 10 + 2 \left(\frac{\text{Score - Mean}}{\text{Standard Deviation}} \right) .$$

With that conversion, the array of scores acquired a mean of 10 and a standard deviation of 2. Table 4.20 shows the total score, average score, and standard score for each teacher. The scores are arranged in descending order; the first eight teachers comprised the most effective group and the last eight teachers were included in the least effective group, based on supervisor evaluation.

Description of Teachers Considered Most Effective by Supervisors

The most effective teachers in the opinion of their immediate supervisors were selected by ranking the total scores from the supervisors' rating scale. Those teachers in the top 27 percent (eight

TABLE 4.18

COMPARISON OF CHARACTERISTICS OF MOST EFFECTIVE TEACHERS AND LEAST EFFECTIVE TEACHERS AS EVALUATED BY STUDENTS ON PERFORMANCE SPECIMEN CHECKLIST

Characteristic	Most Effective Teachers (N = 8)	Least Effective Teachers (N = 8)
Years of Teaching Experience		
0-1 Year	0	1
2-3 Years	6	0
4-5 Years	0	1
6-7 Years	1	2
8-9 Years	0	0
10 Years or More	1	4
Years of Experience in Teaching General Business		
0-1 Year	3	2
2-3 Years	3	1
4-5 Years	1	0
6-7 Years	1	3
8-9 Years	0	0
10 Years or More	0	2
Years of Work Experience		
0-1 Year	1	1
2-3 Years	3	4
4-5 Years	1	3
6-7 Years	1	0
10 Years or More	2	0
Undergraduate Major		
Business Education	3	6
Business Administration	4	1
Social Studies, Home Economics, or Others	1	1
Undergraduate Methods Course in Teaching Basic Business Subjects	0	5
Graduate Methods Course in Teaching Basic Business Subjects	3	3
Workshop and/or In-Service Sessions in Teaching General Business	3	3
Certification for General Business	5	5
Student Teaching in General Business	0	0

TABLE 4.19

TEACHING EFFECTIVENESS SCORES FOR MOST EFFECTIVE TEACHERS AND LEAST EFFECTIVE TEACHERS AS EVALUATED BY STUDENTS ON PERFORMANCE SPECIMEN CHECKLIST

Most Effective Teachers (N = 8)		Least Effective Teachers (N = 8)	
Teacher Number	Score	Teacher Number	Score
13	30.402	16	17.504
8	25.395	26	17.156
29	24.723	14	15.948
17	24.369	2	15.613
6	23.623	5	15.613
30	23.173	11	15.580
1	22.752	28	15.082
22	22.465	9	12.554

NOTE: The calculated *t*-ratio was 8.603; to be significant at the .001 level, the *t*-ratio must be 4.140.

teachers) were considered the most effective teachers. A tie occurred in the total points assigned by supervisors to teachers in the eighth and ninth places; a coin toss determined that teacher 24 would be included among the most effective teachers and that teacher 23 would be eliminated.

All eight of those teachers were experienced teachers. Their years of experience ranged from three years to ten years, with a mean of 4.9 years. Two teachers had only one year of teaching experience in the general business course, while the teacher with the most experience had taught the course for six years. The mean years of teaching general business was 3.4 years. Each of the eight teachers had work experience outside of teaching. One teacher had worked for one year, one had worked two years, four had worked three years, one had worked ten years, and one had worked twenty-eight years.

TABLE 4.20

TOTAL, AVERAGE, AND STANDARD SCORES ASSIGNED TO TEACHERS BY THEIR IMMEDIATE SUPERVISORS ON THE SUPERVISORS' RATING SCALE
(HIGHEST AVERAGE POSSIBLE = 5.0)
(TOTAL POSSIBLE POINTS = 150)

Teacher Number	Total Score	Average Score	Standard Score
6	150	5.00	12.794
8	150	5.00	12.794
3	147	4.90	12.536
12	141	4.70	12.022
20	138	4.60	11.764
7	138	4.60	11.764
1	137	4.57	11.678
24	135	4.50	11.507
23	135	4.50	11.507
13	134	4.47	11.421
30	134	4.47	11.421
10	132	4.40	11.250
27	125	4.17	10.649
21	122	4.07	10.392
17	122	4.07	10.392
18	121	4.03	10.306
15	116	3.87	9.877
22	113	3.77	9.620
28	113	3.77	9.620

TABLE 4.20 (continued)

Teacher Number	Total Score	Average Score	Standard Score
9	112	3.73	9.534
29	110	3.67	9.362
14	109	3.63	9.277
26	107	2.56	9.105
25	98	3.27	8.333
19	96	3.20	7.161
5	90	3.00	7.647
4	90	3.00	7.647
11	86	2.87	7.304
16	65	2.17	5.502
2	57	1.90	4.816

In undergraduate school, those teachers had varied kinds of preparation; four were business education majors, and four had majored in some area of business administration. Four teachers had completed an undergraduate methods course in teaching basic business subjects, and two had completed a graduate methods course. Only one person had participated in workshops or in-service sessions on teaching general business; that person had attended weekly sessions for eight weeks for in-service education. Six teachers were certified to teach general business; those who were not certified for that course were qualified in distributive education, business law, economics, and other courses which contribute to

the subject matter content of the course. Two of the teachers had taught general business in their student teaching experience.

On eight items on the supervisors' rating scale, the most effective teachers received perfect ratings of 5. Those items included:

14 Understands and cares about boys and girls in groups as well as individually.

15 Is interested in and enthusiastic about general business teaching.

17 Listens attentively to ideas expressed by others.

18 Generates enthusiasm for students and for teaching.

19 Has empathy for people.

21 Has imagination and curiosity about the world around him, and especially about the business environment.

22 Is clear and expressive in speaking; chooses words which clearly convey the material in a concise way.

26 Is proud of his profession and has pride in his work.

The range of points assigned to these eight teachers on thirty characteristics was from 30 to 40 points for each characteristic. Table 4.21 shows the points assigned to each of the characteristics on the rating scale. These teachers were assigned total points ranging from 135 to 150, or a range of mean scores of 4.50 to 5.00. Two teachers were assigned a perfect score of 150, or 5.0 on all characteristics.

A *t*-test calculated on the scores of the most effective and least effective teachers on all characteristics yielded a *t*-ratio of 32.771, which was significant at the .001 level. The .001 level of significance was 4.140.

TABLE 4.21

POINTS ASSIGNED TO THIRTY TEACHER CHARACTERISTICS BY SUPERVISORS OF MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS ON SUPERVISORS' RATING SCALE

Characteristic Number	Points Assigned to Most Effective Teachers	Points Assigned to Least Effective Teachers
1	36	23
2	34	22
3	38	21
4	38	24
5	31	21
6	36	21
7	35	23
8	38	25
9	38	27
10	36	25
11	39	24
12	38	23
13	36	22
14	40	27
15	40	22
16	38	25
17	40	26
18	40	22
19	40	26
20	38	23
21	40	23
22	40	23
23	37	21
24	37	20
25	39	21
26	40	22
27	39	19
28	38	21
29	37	23
30	39	24

NOTE: The calculated t-ratio was 32.771; in order to be significant at the .001 level, the t-ratio must be 4.140.

The characteristics on the rating scale on which the most effective teachers were rated the lowest included these four, which received 31, 34, 35, and 36 points for those teachers:

2 Makes assignments to students according to individual interests, purposes, and abilities.

5 Uses community resources to improve instruction.

7 Reviews his files of teaching aids and materials periodically to retain what is useful and destroy what is no longer needed.

10 Does not "preach" his values to students.

Description of Teachers Considered Least Effective by Supervisors

Those teachers who ranked in the lower 27 percent on points assigned by supervisors had an average of 8.9 years of teaching experience. Years of experience ranged from none to twenty years, with one teacher having no experience, one having one year, one with five years, two with seven years, one with eleven years, and two with twenty years of experience.

The average years of experience in general business teaching was 5.4 years, with a range of none to eleven years. One teacher had no experience, one had taught general business for one year, one had taught the course for five years, two had taught the course six years, two had taught general business for seven years, and one had taught the course for eleven years.

Seven of the teachers had worked outside of teaching for one to five years. Two teachers had worked one and three years, respectively;

two had worked two years, one had worked four years, and two had worked outside of teaching for five years.

Five of the teachers were business education majors as undergraduates. Five had completed an undergraduate methods course, and three had included a methods course in teaching basic business subjects in their graduate work. Two had participated in a workshop on teaching general business, and one had attended in-service sessions on teaching general business. Seven of the eight teachers were certified to teach general business, and one teacher had taught the course in his student teaching experiences. Table 4.22 compares the upper and lower groups of teachers on supervisor evaluations and shows background characteristics of both groups.

Points assigned by supervisors to the least effective teachers ranged from 57 to 107. Three teachers received ratings of "1" or "Poor" on some characteristics. Characteristics on which those teachers in the lower 27 percent were rated lowest included these items, which were assigned less than 22 points for the group:

3 Stimulates student interest and participation in class activities.

5 Uses community resources to improve instruction.

6 Establishes, with students' participation, objectives for the general business course and focuses his classroom activities on achieving those goals.

23 Recognizes, understands, and employs psychological principles in the teaching-learning process.

24 Is able to adjust to students' level of comprehension

and can provide well for individual differences.

25 Is able to guide students effectively in extra-class activities; i.e., clear and purposeful homework assignments and special individual or group projects.

27 Is well prepared in subject matter to teach general business.

28 Possesses a repertoire of ideas for implementing the teaching and learning processes.

The array of points assigned to those teachers on each characteristic ranged from 19 through 27, compared with a range of 30 through 40 for the teachers in the upper 27 percent on supervisor evaluations.

Two teachers in the least effective group received "Excellent" ratings on several factors. Five in this group had mean scores of 3.0 or better (standard scores of 7.647 or above), indicating that their supervisors considered them as effective as the "average" teacher. Two teachers had standard scores two standard deviations or more below the mean, with scores of 5.502 and 4.816.

Analysis by a *t*-test made on the upper and lower 27 percent of scores from the supervisors' rating scale resulted in a ratio of 8.666, which was significant at the .001 level. That ratio indicated a highly significant difference in the means of the scores of the groups of most effective and least effective teachers, since the significant ratio for the .001 level was 4.14. The rating scale evidently can discriminate between teachers considered effective and those considered ineffective by their immediate supervisors. Table 4.23 shows scores for both groups.

TABLE 4.22

COMPARISON OF CHARACTERISTICS OF MOST EFFECTIVE AND LEAST EFFECTIVE TEACHERS IN EVALUATION BY IMMEDIATE SUPERVISORS

Characteristic	Most Effective Teachers (N = 8)	Least Effective Teachers (N = 8)
Years of Teaching Experience		
0-1 Year	0	2
2-3 Years	3	0
4-5 Years	3	1
6-7 Years	1	2
8-9 Years	0	0
10 Years or More	1	3
Years of Experience in Teaching General Business		
0-1 Year	2	2
2-3 Years	2	0
4-5 Years	3	1
6-7 Years	1	4
8-9 Years	0	0
10 Years or More	0	1
Years of Work Experience		
0-1 Year	1	2
2-3 Years	5	3
4-5 Years	0	3
10 Years	1	0
28 Years	1	0
Undergraduate Major		
Business Education	4	5
Business Administration	4	2
Social Studies, Home Economics, or Others	0	1
Undergraduate Methods Course in Teaching Basic Business Subjects	4	5
Graduate Methods Course in Teaching Basic Business Subjects	2	3
Workshop and/or In-Service Session on Teaching General Business	1	2
Certification for Teaching General Business	6	7
Student Teaching Experience in General Business	2	1

TABLE 4.23

SUPERVISOR RATINGS OF MOST EFFECTIVE TEACHERS AND LEAST EFFECTIVE TEACHERS AS EVALUATED ON THE SUPERVISORS' RATING SCALE

Points Assigned Most Effective Teachers (N = 8)		Points Assigned to Least Effective Teachers (N = 8)	
Teacher Number	Points	Teacher Number	Points
6	150	26	107
8	150	25	98
3	147	19	96
12	141	5	90
7	138	4	90
20	138	11	86
1	137	16	65
24	135	2	57

NOTE: The calculated *t*-ratio was 8.666; to be significant at the .001 level, the *t*-ratio must be 4.140.

In view of the differences in scores for every characteristic on the rating scale between the most effective and least effective teachers, the supervisors' rating scale appears to include items which are desirable traits of effective general business teachers.

VII. COMPARISON OF STUDENT AND SUPERVISOR EVALUATION OF EFFECTIVENESS

One of the purposes of this study was to determine whether there was a significant relationship between the ratings of teachers by their immediate supervisors and students. In order to determine whether or not supervisors and students evaluated teachers in similar ways, the

standard scores on the supervisors' rating scale and the summed standard scores from the performance checklists were compared by correlation techniques. Spearman Rank Correlation and Pearson Product Moment Correlation formulas were used to test the degree and direction of relationship.

Scores from the supervisors' ratings and student evaluations were placed in rank order for analysis by Spearman Rank Correlation. Table 4.24 shows the order of those rankings. A coefficient of .496 was computed; that coefficient was above the .432 required for significance. A coefficient of .491, calculated with the Pearson Product Moment Correlation formula, was significantly different from zero at the .01 level, also. However, a coefficient of determination computed by squaring either of those coefficients would indicate that only about 24 percent of the variation in either set of scores could be attributed to variation in the other set of scores. Therefore, the assumption should not be made that supervisors and students evaluated the teachers alike in this study.

The teacher perceived by his students as the most effective teacher in this study (summed standard score of 30.402) was not perceived as being as effective by his immediate supervisor. His standard score on the rating scale was 11.421, which was within the first standard deviation above the mean. In student evaluations, his score was within the third standard deviation above the mean. In comparison to other teachers, that teacher was ranked 10.5 by his immediate supervisor.

For four teachers, the rankings by students and supervisors were identical. The greatest disparity of rankings occurred in the case of

TABLE 4.24

A COMPARISON OF RANKING OF GENERAL BUSINESS TEACHERS BY THEIR STUDENTS AND BY THEIR IMMEDIATE SUPERVISORS

Teacher Number	Ranking by Students	Ranking by Immediate Supervisor
1	7	7
2	26.5	30
3	14	3
4	20	26.5
5	26.5	26.5
6	5	1.5
7	13	5.5
8	2	1.5
9	30	20
10	10	12
11	28	28
12	18	4
13	1	10.5
14	25	22
15	11	17
16	23	29
17	4	14.5
18	16	16

TABLE 4.24 (continued)

Teacher Number	Ranking by Students	Ranking by Immediate Supervisor
19	9	25
20	21	5.5
21	12	14.5
22	8	18.5
23	17	8.5
24	22	8.5
25	15	24
26	24	23
27	19	13
28	29	18.5
29	3	21
30	6	10.5

NOTE: The Spearman Rank Correlation coefficient between two rankings was .496; to be significant at the .01 level, that coefficient must be .432.

teacher 29; his students evaluated him as being much more effective than did his supervisor. In terms of standard scores, his student evaluation score (the summed standard score) was in the second standard deviation above the mean. In his supervisor evaluation, his standard score was 9.362, just below the mean. On the five-point scale, he was assigned an average of 3.67, a rating between the "average" and "above average" categories.

The least effective teacher, in the opinion of his students, was evaluated by his immediate supervisor as above average, with a mean rating of 3.87 on the five-point scale. His standard score from the supervisors' rating scale was 9.534, just below the mean of 10.0. His summed standard score from student evaluations was 12.554, just within the second standard deviation below the mean. That difference in evaluation would indicate some differences in the way the supervisor and students perceive the teaching effectiveness of that teacher.

There were differences in the individual teachers who were placed in the most effective group and least effective group by students and supervisors. The students placed teachers 1, 6, 8, 13, 17, 22, 29, and 30 in the most effective group. The supervisors placed teachers 1, 3, 6, 7, 8, 12, 20, and 23 in the most effective group. Only three teachers appeared in both groups of most effective teachers: 1, 6, and 8.

The students placed teachers 2, 5, 9, 11, 14, 16, 26, and 28 in the least effective group. The supervisors placed teachers 2, 4, 5, 11, 16, 19, 25, and 26 in that group. Five appeared in the group of teachers evaluated by both students and supervisors as least effective: teachers 2, 5, 11, 16, and 26. Thus, there was a higher degree of congruity in placing teachers in the least effective group than in placing them in the most effective group.

Those three teachers who appeared in both groups of most effective teachers, teachers 1, 6, and 8, had the following standard scores on the supervisors' rating scale: 11.678, 12.794, and 12.794. Their effectiveness scores were 22.752, 23.623, and 25.595.

The five teachers who appeared in both groups of least effective teachers, teachers 2, 5, 11, 16, and 26, had the following scores on the supervisors' rating scale: 4.816, 7.647, 7.304, 5.502, and 9.105. Their scores on the checklist completed by students were 15.613, 15.613, 15.580, 17.504, and 17.156. A comparison of those standard scores, with a mean on the rating scale of 10.0 and a mean on the checklist of 20.0, shows that those teachers were evaluated as being below the mean by both groups of evaluators.

A comparison of ratings of the thirty teachers by supervisors and students will reveal that they do differ in their evaluations of individual teacher effectiveness. However, as the test for correlation indicated, there is a significant relationship between the two kinds of evaluations; the correlation coefficient of .491 was significant at the .01 level. If a coefficient of determination is computed by squaring the correlation coefficient, however, that coefficient of .2411 indicates that only approximately 24 percent of the variation in one set of evaluations is associated with the variation in the other set of scores. Caution should be exercised in interpreting that coefficient of correlation.

When each of the three sections of the rating scale for supervisor evaluation of teacher effectiveness was correlated with the teaching effectiveness scores from student evaluation, correlation coefficients of .073, .143, and .164 were computed for the correlation of effectiveness scores with classroom performance scores, scores on personal qualifications of general business teachers, and professional preparation scores. None of the correlation coefficients were significant values,

indicating no significant relationship between any one section of the rating scale and scores on the checklist. Those results indicate that the entire instrument must be used for supervisor evaluation to obtain ratings that will correlate to any significant degree with student evaluations on the checklist.

CHAPTER V

SUMMARY

I. PROBLEM AND PROCEDURES

The primary purpose of this study was to determine the extent of relationship between evaluations of teaching effectiveness by students and by immediate supervisors of general business teachers. Secondary purposes of this study were to (1) identify specimens of good and poor teaching performance as perceived by high school general business students, (2) identify characteristics of a good general business teacher as identified by national leaders in general business education, and (3) identify the traits of an effective general business teacher.

Identifying Specimens for the Performance Specimen Checklist

A performance specimen checklist was used for student evaluation of teaching effectiveness in this study. That checklist was developed from examples of good and poor teaching behaviors collected from general business students in East Tennessee high schools. The examples were compiled by giving students a form on which they listed incidents of good and poor teaching that they had observed in their general business classes.

From 538 students, 1,679 samples were collected. A tabulation of the incidents showed that 189 different specimens of poor teaching behavior and 208 specimens of good teaching behavior were collected. The remainder of the incidents were duplications. Those examples selected

for the final checklist were those which had been listed by students five or more times, in the case of incidents of poor teaching behavior, and six or more times, in the case of good teaching behaviors. Sixty-eight specimens, thirty-four of good teaching and thirty-four of poor teaching, were used in the final checklist.

Compiling a Supervisors' Rating Scale Through the DELPHI Technique

A supervisors' rating scale was developed for supervisor evaluation of teaching effectiveness through the DELPHI Technique. A list of forty-five characteristics of good general business teachers was developed from previous studies and publications. A panel of eight recognized leaders in the general business field was selected and asked to participate in the study by completing a series of questionnaires asking their opinions on the importance of those forty-five characteristics. Categories were "Essential," "Desirable but not Essential," and "Unimportant." A series of three questionnaires to which the panel members responded was sent. On each questionnaire, each panelist was asked to categorize each characteristic; after the first questionnaire, he also was asked to give a reason for his choice if he chose to place the characteristics in categories different from those of the majority of the panel members. Members also were asked to make suggestions for additions and deletions that would improve the list.

After three questionnaires, followed by feedback of opinions and information, thirty characteristics had been rated by a majority of the panelists as "Essential." Those thirty characteristics were grouped into three categories and placed on the final supervisors' rating scale.

Categories used were Classroom Performance, Personal Qualities of General Business Teachers, and Professional Preparation. A fourth questionnaire reported the results of the third questionnaire to the panel of experts and identified those characteristics used in the final scale.

Collection of Data

Thirty teachers of general business classes selected from a list of high schools in East Tennessee were included in the study. Immediate supervisors of those teachers agreed to participate in the study by evaluating the effectiveness of those teachers in general business teaching. Each teacher was visited by the investigator and completed a questionnaire asking for eight kinds of background information on the teacher's preparation for general business teaching: years of experience in teaching, years of experience in teaching general business, years of outside work experience, degree earned, undergraduate major, professional preparation, certification for teaching, and student teaching experience. At the time of that visit, the investigator talked with the immediate supervisor of that teacher and asked him to complete the supervisors' rating scale, evaluating the teacher on a five-point scale on thirty characteristics. At the same time, the investigator visited one of the general business classes of that teacher and asked the students to complete the performance specimen checklist, checking those behaviors they personally had observed in their general business classroom and assigning an overall evaluation to the teaching performance of their teacher.

Analysis of the Data

Data from the checklist, questionnaire, and rating scale were coded and punched into IBM cards for analysis on an IBM 402 Accounting Machine and an IBM Model 360/65 computer in The University of Tennessee Computing Center. One card was prepared for each teacher for background data and supervisor ratings; another card was prepared for each student evaluation on the performance specimen checklist.

The sufficiency and reliability of the performance specimen checklist were checked by use of the Pearson Product Moment Correlation formula. Chi-square analysis was used to check the discriminatory power of each item to differentiate between most effective and least effective teachers.

Standard scores were computed for each of the teachers from the scores assigned to them by students and supervisors. Those scores were used for various analyses to determine factors that contributed to teaching effectiveness or ineffectiveness and relationships between supervisor and student evaluations.

One-way analysis of variance was used to determine whether there were significant differences among teaching effectiveness scores and supervisors' rating scale scores for the most effective and least effective teachers grouped according to years of teaching experience, years of experience in teaching general business, and years of outside work experience.

Those teachers in the upper 27 percent of teacher effectiveness scores (designated as the most effective teachers) and those in the lower 27 percent (designated as the least effective teachers) were

compared to determine whether or not significant differences existed among the means of scores assigned by students. Pearson Product Moment Correlation was used to determine whether the overall ratings assigned to teaching effectiveness by students were significantly related to the E/I scores computed from evaluations on the performance specimen checklist.

The supervisors' rating scale was divided into three parts, with thirteen characteristics on Classroom Performance, thirteen on Personal Qualifications of General Business Teachers, and four characteristics on Professional Preparation. To test whether scores on the three sections were significantly related to the total teaching effectiveness scores assigned by students and whether scores on the entire rating scale were significantly related to teaching effectiveness scores, Pearson Product Moment Correlation was used.

The *t*-test analysis was used to determine whether the means of rating scale scores were significantly different for the most effective and least effective teachers, as evaluated by their immediate supervisors.

A *t*-test was applied to the scores assigned by supervisors to thirty characteristics on the rating scale for the most effective and least effective teachers to test whether mean scores were significantly different for the two groups.

II. MAJOR FINDINGS

The major findings of this study were as follows:

1. There was no significant relationship between number of years of teaching experience and teaching effectiveness in general business as

evaluated by students. One-way analysis of variance on the means of teaching effectiveness scores for the most effective and the least effective teachers grouped according to years of teaching experience resulted in an F-ratio of 1.219, which was not significant at the .05 level.

2. There was a significant relationship between number of years of teaching experience and scores assigned by immediate supervisors of general business teachers evaluated as most effective and least effective teachers by those supervisors. An F-ratio resulting from one-way analysis of variance was significant at the .05 level but not at the .01 level. The F-ratio of 4.3895 showed that the means of supervisors' scores varied among groups of least effective and most effective teachers grouped according to their years of teaching experience. The supervisors rated teachers with fewer years of teaching experience (0-6 years) as more effective teachers.

3. There was no significant relationship between years of experience in general business teaching and teaching effectiveness in general business as evaluated by either students or immediate supervisors. F-ratios of 3.070 on student evaluations and 2.1735 on supervisor evaluations computed by one-way analysis of variance tests were not significant at the .05 level.

4. There was no significant relationship between years of outside work experience and teaching effectiveness in general business as evaluated by either students or supervisors. F-ratios resulting from one-way analysis of variance were 3.011 for student evaluation and 2.6625 for supervisor evaluations and were not significant at the .05

level when teachers were grouped according to years of outside work experience.

5. There was a significant relationship between student evaluations and immediate supervisor evaluations of teaching effectiveness in general business. A Pearson Product Moment Correlation coefficient of .491 was significant at the .01 level, when standard scores from the checklist and rating scale were correlated. A coefficient of determination, computed by squaring that correlation coefficient, indicated that only approximately 24 percent of the variation in one set of scores was attributable to the second set of scores from those evaluations; therefore, there were differences in the way students and supervisors evaluated teaching effectiveness.

6. The performance specimen checklist used for student evaluation of teaching effectiveness was a valid instrument. Correlation of the E/I scores and overall scores on the checklist resulted in a Pearson Product Moment Correlation coefficient of .758. That coefficient indicated that the specimens included in the checklist were adequate for measuring general business teacher effectiveness.

7. The performance specimen checklist used in this study was a reliable instrument. The split-halves method of checking reliability was used and resulted in a correlation coefficient of .597 between halves. When that coefficient was corrected by the Spearman-Brown Prophecy formula, the predicted reliability of the entire instrument was .748. For an instrument of the length of the checklist, that reliability coefficient was acceptable.

8. There are distinguishing characteristics that differentiate between effective and ineffective teachers in general business. In a Chi-square analysis of sixty-eight specimens from the checklist, results indicated that fifty-nine of the specimens discriminated at the .05 level between the most effective and least effective teachers. Fifty-two items discriminated at the .001 level. In a *t*-test of the means of supervisor ratings assigned to the most effective and least effective teachers, a *t*-value of 32.771, significant at the .001 level, showed that there were highly significant differences in the way supervisors evaluated the two groups of teachers.

9. Use of the total supervisors' rating scale resulted in an evaluation of teacher effectiveness by supervisors that correlated with student evaluations on the performance specimen checklist. However, none of the three sections of the rating scale correlated significantly with student evaluations.

III. CONCLUSIONS

Based on the findings of this study, the following conclusions can be drawn:

1. The performance specimen checklist developed in this study is an appropriate instrument for measuring teacher effectiveness as judged by students.

2. The supervisors' rating scale, used in its entirety, is an appropriate instrument for measuring teacher effectiveness as judged by immediate supervisors of general business teachers.

3. There is a positive relationship between the evaluation of teacher effectiveness by students and by immediate supervisors. However, because that correlation is only .491 in the study, the conclusion must be drawn that there are differences in the criteria used by supervisors and by students in evaluating teacher effectiveness. A coefficient of determination of .2411 indicates that approximately 24 percent of the variation in one set of evaluations is accounted for by variation in the other set of scores. Therefore, 76 percent of the differences in student and supervisor evaluations are accounted for by factors not reflected by those scores.

IV. OBSERVATIONS

From this study, some observations that are not statistically proven by the study's findings appear to need some elaboration. A number of characteristics included on the supervisors' rating scale and considered by the panel of experts to be essential for effective general business teaching were related to the ability of the teacher to provide an interesting experience in general business for the students. Other characteristics were related to the personality of the teacher, to the ability of the teacher to relate to the students, and to help them to feel that the general business class could be a worth-while experience for them.

In student evaluations of teaching effectiveness by means of the performance specimen checklist, eight of ten specimens which had the highest discrimination were related to involvement of the students

in the class and the effect that the teacher as a person had on the students. These specimens with the highest discrimination values were:

1. Let students go to the library to get additional information.
2. Did not joke with the class.
3. Let students try to teach some units.

Other items with high discrimination values were:

1. Was too strict.
2. Had class discussions which allowed everyone to take part.
3. Was pleasant with the students.
4. Did not have enough variety in class activities.
5. Became irritated or angry too easily.

Those examples illustrate the need for teachers to consider the effect they as persons have on the students they teach. General business classes often are difficult to teach because of the wide range of ability among the students, the tendency of the course to become a "dumping ground" in some schools, and the lack, of preparation of the teachers for such a course which has a wide scope of topics and is related to *all* phases of today's economic world.

Cooperation between class members and the teacher is needed to provided a learning situation that can be geared to the needs of the various kinds of students in the class with their widely varying interests, abilities, and motivation levels.

Apparently, factors other than teaching experience, such as the personality of the teacher, rapport with students, and involvement of students in a variety of activities in the classroom, play a more

important part in teaching effectiveness as evaluated by immediate supervisors and students. Teaching experience, whether in general business or in all areas of teaching, was not a primary factor in teaching effectiveness scores in this study.

This study was based on the assumption that students are competent evaluators of teacher effectiveness. Because the results of the study showed some relationship, but yet some differences, in the way supervisors and students evaluated teacher effectiveness, supervisors should consider student evaluations in attempting to determine effectiveness of teachers. A combination of the measures on the supervisors' rating scale and performance specimen checklist developed in this study should give an indication of the classroom effectiveness of general business teachers as well as some guidelines for improvement by revealing areas in which students and supervisors did not rate a teacher as excellent.

The findings of the Hairston[1] study were corroborated by the present study. In his list of twenty-six traits of a "good" teacher of basic business classes, traits that were identified from an analysis of critical incidents, Hairston included a number of characteristics which describe an effective teacher as identified by supervisors and students in this study. He developed four major categories of behaviors

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[1] James W. Hairston, "An Operational Definition of a 'Good' Teacher of Basic Business Classes Based Upon an Analysis of Critical Incidents" (unpublished Doctoral dissertation, Colorado State College, Greeley, 1965).

derived from critical incidents listed by supervisors and teachers of basic business classes in six states: Effective Instructional Skills, Effective Classroom Administration, Effective Community Relationships, and Effective Professional Qualities.

Hairston listed six traits of a "good" basic business teacher in the area of Effective Instructional Skills:

1. Uses a variety of teaching methods and techniques.
2. Recognizes, understands, and employs psychological principles of learning.
3. Seeks and accepts student suggestions and cooperation in planning instructional activities.
4. Plans instruction that promotes and enhances student understanding.
5. Tries new and experimental teaching methods.
6. Prepares and uses a variety of visual and sensory teaching aids.

In the present study, traits associated with teacher's skill in the classroom appeared in the list of specimens with the highest discrimination on the performance specimen checklist. Those specimens were:

1. Let students go to the library to get additional information.
2. Let students try to teach some units.
3. Had class discussions which allowed everyone to take part.
4. Did not have enough variety in class activities.

5. Explained thoroughly and covered the material well.

The six traits from Hairston's study and five from the present study appear to be closely related in the kinds of behaviors they describe. Fifty-nine items on the performance specimen checklist discriminated between the most effective and least effective teachers at the .05 level. Many of those behaviors with discriminative power, even though not in the top ten items in discrimination, could be categorized under the six characteristics listed by Hairston.

Hairston also identified ten traits of a "good" teacher of basic business classes under the general heading of Effective Classroom Administrations:

1. Stimulates student interest and participation in class activities.
2. Provides learning experiences that possess meaning and facilitate understanding.
3. Uses advanced students to motivate their classmates.
4. Makes use of demonstrations, chalkboard illustrations, and bulletin board displays.
5. Provides adequate classroom supervision.
6. Earns student respect through classroom conduct.
7. Uses instructional time to the best advantage of all students.
8. Exhibits consistently democratic leadership.
9. Employs disciplinary measures that encourage and rehabilitate problem students.
10. Respects the rights of students.

Six of the items that appear in the list of performance specimens with high discrimination can be categorized as illustrating the presence or absence of skills in classroom administration:

1. Was too strict.
2. Did not joke with the class.
3. Gave too much work in class--made students work the whole period.
4. Let students try to teach some units.
5. Was pleasant with the students.
6. Became irritated or angry too easily.

Items 4 and 5 are very similar to the traits listed by Hairston, and items 1, 2, 3, and 6 indicate the absence of Hairston's traits.

Six traits of a "good" teacher of basic business classes listed by Hairston as Effective Professional Qualities were:

1. Possesses an adequate knowledge of the subject matter.
2. Displays a genuine interest in students.
3. Keeps abreast of new developments in education.
4. Is a member of and assumes an active role in professional organizations.
5. Generates enthusiasm for students and for teaching.
6. Avoids undue familiarity with students.

Six characteristics on which the most effective teachers in the present study received perfect ratings were characteristics that described the teacher as a professional person.

1. Understands and cares about boys and girls in groups as well as individually.

2. Is interested in and enthusiastic about general business teaching.
3. Listens attentively to ideas expressed by others.
4. Generates enthusiasm for students and for teaching.
5. Has empathy for people.
6. Has imagination and curiosity about the world around him, and especially about the business environment.
7. Is clear and expressive in speaking; chooses words which clearly convey the material in a concise way.
8. Is proud of his profession and has pride in his work.

These eight characteristics are closely related to items 2 and 5 of Hairston's listing of Effective Professional Qualities: Displays a genuine interest in students, and generates enthusiasm for students and for teaching.

Because of the similarity between traits listed by Hairston for a "good" teacher of basic business subjects and those characteristics listed on the supervisors' rating scale and the teaching behaviors on the performance specimen checklist used in the present study, these two instruments should be good measures for evaluating the extent to which a general business teacher possesses the traits of a "good" teacher listed by Hairston. In turn, a teacher rated as very effective by his supervisor and students on this study's two instruments could be considered a "good" teacher as defined by the Hairston study.

These observations, although not statistically proven in the study, are worth considering in any attempt to determine how to help teachers to work more effectively with their general business students.

V. RECOMMENDATIONS FROM THE STUDY

Based on the conclusions of this study, the following recommendations are made:

1. The performance specimen checklist developed for this study should be used by general business teachers for student evaluation of their teaching effectiveness in general business classes. That checklist can be a valuable aid to self-improvement by the teacher, and it can provide feedback that enables the teacher to meet the needs of students in the class. Although no absolute definition of effectiveness can be determined from the scores on checklists used in this study, a teacher can tally the number of effective and ineffective items checked by his students and determine whether there is a pattern of checks that would indicate behaviors which need to be improved or which should be continued.

2. Immediate supervisors of general business teachers should consult students for evaluation of teaching effectiveness in determining teacher assignments. The use of the performance specimen checklist could give information that could help the supervisor to make more appropriate assignments according to teacher interests and abilities.

3. Teaching effectiveness in general business should not be judged solely on the basis of years of experience in teaching, in general business teaching, or in outside work experience. Those factors may contribute in some ways to teaching effectiveness, but there was not a significant difference in effectiveness of teachers grouped according to varying amounts of those three kinds of experiences, except in the case of supervisor evaluations on the basis of years of teaching experience.

VI. RECOMMENDATIONS FOR FURTHER STUDY

As a result of this study, further research is needed to solve the problems identified or not resolved here:

1. Further study should be made of the effect of the temperament of a teacher on teaching effectiveness. Administering a standardized test on temperament to the teachers included in this study and comparing the results of that test with the teaching effectiveness scores determined for this study would provide a basis for determining whether teacher temperament is a significant factor in effectiveness.

2. The relationship of student achievement and teaching effectiveness should be researched. Administering an achievement test to the students for whom checklists were collected would enable an investigator to study the relationship between student learning and teacher effectiveness.

3. Because this study was limited to a sample of teachers and students and immediate supervisors in East Tennessee, it should be replicated in other areas of the country before the results are applied to general business teachers and students outside East Tennessee. It may then be determined if the results of this study, the performance specimen checklist, and the supervisors' rating scale are appropriate for other areas of the country.

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APPENDICES

APPENDIX A

GENERAL BUSINESS LEADERS FOR THE PANEL FOR THE DELPHI TECHNIQUE

Miss Gladys Bahr
DePaul University
Chicago, Illinois

Dr. S. Joseph DeBrum
San Francisco State College
San Francisco, California

Dr. J. Curtis Hall
Virginia Commonwealth University
Richmond, Virginia

Dr. Peter Haines
Michigan State University
East Lansing, Michigan

Dr. Dean R. Malsbary
The University of Connecticut
Storrs, Connecticut

Dr. Vernon Musselman
Th University of Kentucky
Lexington, Kentucky

Dr. Louis Nanassy
Montclair State College
Upper Montclair, New Jersey

Dr. Ray Price
The University of Minnesota
Minneapolis, Minnesota

APPENDIX B

Name_____

RESULTS OF THE APPLICATION OF THE DELPHI TECHNIQUE TO A LIST OF CHARACTERISTICS OF GENERAL BUSINESS TEACHERS

(Three Questionnaires)

Below are shown the results of Questionnaire III of my study on the qualities needed by a teacher to be an effective general business teacher. The response that you made is indicated by a red dot. All characteristics which were categorized as "essential" by five or more of the members of the panel of experts were included on the supervisors' rating scale and will be used in the study.

Characteristic	Questionnaire III Rank			
	Essential	Desirable but not Essential	Unimportant	Item Should Be Dropped
Classroom Performance				
1. Collects and uses effectively teaching aids to supplement traditional instructional materials	7			
2. Creates supplementary teaching materials	2	3		2
3. Makes assignments to students according to individual interest, purposes, and abilities	7			
4. Stimulates student interest and participation in class activities	7			
5. Allows the student to express ideas and to initiate questions, and will forego a preplanned class procedure to adapt to a student-initiated procedure	7			
6. Uses community resources to improve instruction	7			
7. Establishes, with the students' participation, objectives for the general business course and focuses his classroom activities on achieving those goals	7			
8. Has a systematic means of filing his teaching aids and materials	4	3		

Characteristic	Questionnaire III Rank			
	Essential	Desirable but not Essential	Unimportant	Item Should be dropped
9. Reviews his files of teaching aids and materials periodically to retain what is useful and destroy what is no longer needed	6		1	
10. Keeps students apprised of their progress in class	5	2		
11. Respects the values of minority groups	5	1	1	
12. Does not "preach" his values to students	6	1		
13. Is tolerant of opinions other than his own	7			
14. Relates the content of general business to other fields of knowledge, and particularly to economic concepts and problems	7			
15. Effectively uses modern technological aids, such as audio-visual media and materials and self-instructional materials	5	2		
16. Skillful in guiding students in the learning process	4		3	
Personal Qualifications of General Business Teachers				
1. Understands and cares about boys and girls in groups as well as individually	7			
2. Is interested in and enthusiastic about general business teaching	7			
3. Knows that he does not know or need to know all the answers	7			
4. Listens attentively to ideas expressed by others	7			
5. Generates enthusiasm for students and for teaching	5		2	
6. Has empathy for people	7			
7. Possesses personal skills which enable him to communicate directly, by example, and by contagion	5	2		
8. Has imagination and curiosity about the world around him, and especially about the business environment	6	1		

Characteristic	Questionnaire III Rank			
	Essential	Desirable but not important	Unimportant	Item Should be Dropped
9. Encourages a creative, adventurous-spirited attitude in his students	2	4		1
10. Clear and expressive in speaking; chooses words which clearly convey the material in a concise manner	5	1	1	
11. Is skillful in stimulating students to achieve and share responsibility	4	1	2	
12 Recognizes, understands, and employs psychological principles in the teaching-learning process	7			
13. Is friendly and sociable	1	4		2
14 Is well groomed, with clothes neat, clean, and in good taste	1	5		1
15. Meets crises with calmness--is emotionally stable	2	5		
16. Has breadth in his cultural background		7		
17. Understands the complexities of the teaching-learning process			1	6
18. Is willing to accept his share of responsibility	1		2	4
19. Accepts and profits from suggestions made by supervisors	3	1	1	2
20. Is consistent, predictable, and dependable in fulfilling assigned duties	3	2		2
21. First love is boys and girls	1	1	2	3
22. Is able to adjust to students' level of comprehension--can provide well for individual differences	6			1
23. Is able to conduct informal classroom research	1	4		2
24. Is acquainted with and uses results of research in general business published in the literature	3	2	1	1

Characteristic	Questionnaire III Rank			
	Essential	Desirable but not Essential	Unimportant	Item Should Be Dropped
25. Is not concerned about race of students		1	2	4
26. Is able to guide students effectively in extra-class activities; i.e., clear and purposeful homework assignments and special individual or group projects	5	2		
Community and Professional Relations				
1. Is proud of his profession and has pride in his work	6	1		
2. Cooperates with his colleagues and the administration, contributing his share to the curriculum	4	3		
3. Assumes an active role in the business activities of the community		4	2	1
4. Is a member of and assumes an active role in professional organizations	1	6		
5. Promotes cooperation between the school and the business community		7		
6. Maintains good working relations with the business community		7		
7. Promotes general business in teacher organizations	4	3		
8. Is a good teacher in the profession as a whole			1	6
9. Sees in general business an opportunity to render service	1		1	5
10. Works closely with community action groups, especially minorities		4	2	1
Professional Preparation				
1. Is well prepared to teach general business	7			
2. Has sound professional preparation	4			3
3. Possesses a repertoire of ideas for implementing the teaching and learning processes	6	1		

Characteristic	Questionnaire III Rank: Essential	Desirable but not Essential	Unimportant	Item Should Be Dropped
4. Continuously reads, discusses, and questions in the area of economics	7			
5. Feels competent to teach general business	4	1		1
6. Sees guidance value in general business	5	2		
7. Has the ability to establish the proper learning situation to attain the established purposes of the course			1	6
8. Sees the total educational picture as more important than business education		4	1	2
9. Understands the overall purpose of general business is economic understanding	4		1	1

APPENDIX C

SUPERVISORS' RATING SCALE FOR GENERAL BUSINESS TEACHERS

Teacher:_____ Code_____

Based on all of your experiences in working with and observing this general business teacher, please check the scale for the teaching characteristics listed below, according to the following code:

5 - Excellent--Characteristic is present in this general business teacher to a great degree.
4 - Above Average--Teacher has some degree of the characteristic, more that an "average" teacher.
3 - Average--Characteristic is sometimes present and sometimes not observable. Teacher does not have any more or less of this characteristic that the "average" teacher I know.
2 - Below Average--Characteristic is rarely observed in this general business teacher.
1 - Poor--Teacher does not have this characteristic.

Classroom Performance		1	2	3	4	5
1. Collects and uses effectively teaching aids to supplement traditional instruction materials	1.					
2. Makes assignments to students according to individual interests, purposes, and abilities	2.					
3. Stimulates student interest and participation in class activities	3.					
4. Allows the student to express ideas and to initiate questions, and will forego a pre-planned class procedure to adapt to a student-initiated procedure	4.					
5. Uses community resources to improve instruction	5.					
6. Establishes, with students' participation, objectives for the general business course and focuses his classroom activities on achieving those goals	6.					
7. Reviews his files of teaching aids and materials periodically to retain what is useful and destroy what is no longer needed	7.					
8. Keeps students apprised of their progress in class	8.					
9. Respects the values of minority groups	9.					
10. Does not "preach" his values to students	10.					

11.	Is tolerant of opinions other than his own	11. _ _ _ _ _
12.	Relates the content of general business to other fields of knowledge, and particularly to economic concepts and problems	12. _ _ _ _ _
13.	Effectively uses modern technological aids, such as audio-visual media and materials and self-instruction materials	13. _ _ _ _ _

Personal Qualifications of General Business Teachers

14.	Understands and cares about boys and girls in groups as well as individually	14. _ _ _ _ _
15.	Is interested in and enthusiastic about general business teaching	15. _ _ _ _ _
16.	Knows that he does not know or need to know all the answers	16. _ _ _ _ _
17.	Listens attentively to ideas expressed by others	17. _ _ _ _ _
18.	Generates enthusiasm for students and for teaching	18. _ _ _ _ _
19.	Has empathy for people	19. _ _ _ _ _
20.	Possesses personal skills which enable him to communicate directly, by example, and by contagion	20. _ _ _ _ _
21.	Has imagination and curiosity about the world around him, and especially about the business environment	21. _ _ _ _ _
22.	Clear and expressive in speaking; chooses words which clearly convey the material in a concise manner	22. _ _ _ _ _
23.	Recognizes, understands, and employs psychological principles in the teaching-learning process	23. _ _ _ _ _
24.	Is able to adjust to students' level of comprehension and can provide well for individual differences	24. _ _ _ _ _
25.	Is able to guide students effectively in extra-class activities; i.e., clear and purposeful homework assignments and special individual or group projects	25. _ _ _ _ _
26.	Is proud of his profession and has pride in his work	26. _ _ _ _ _

		1 2 3 4 5
Professional Preparation		
27.	Is well prepared in subject matter to teach general business	27. _ _ _ _ _
28.	Possesses a repertoire of ideas for implementing the teaching and learning processes	28. _ _ _ _ _
29.	Continuously reads, discusses, and questions in the area of economics	29. _ _ _ _ _
30.	Sees guidance value in general business	30. _ _ _ _ _

APPENDIX D

BACKGROUND FACTORS OF GENERAL BUSINESS TEACHERS

Code_____

A. Please fill in the appropriate number on these blanks:

1. Years of Experience in Teaching _____
2. Years of Experience Teaching General Business _____
3. Years of Work Experience (besides teaching) _____

B. Please check the appropriate blanks:

4. College degrees earned:

___B.S. ___B.A.

___M.S. ___M.A.

___Ed.S. ___Ed.D. or Ph.D.

5. Major in college:

___Business Education

___Social Studies

___Home Economics

___Other _____

6. Professional Preparation for Teaching General Business:

___Undergraduate methods course in teaching basic business subjects

___Graduate methods course in teaching basic business courses

___Special workshop in teaching basic business subjects
____Year in which whorkshop was completed

___In-service sessions in teaching basic business subjects
____Year in which sessions were completed

7. Are you certified to teach general business? ___Yes ___No

8. Did you have student teaching experience in teaching general business? ___Yes ___No

9. If you are not certified in general business, in what subjects are you certified?

_____ _____ _____

_____ _____ _____

APPENDIX E

GENERAL BUSINESS TEACHER PERFORMANCE SPECIMEN CHECKLIST

DIRECTIONS: Below are listed performance statements which represent the kinds of things students might observe their general business teacher doing sometime during the year. Read each statement. If you definitely remember having observed it during this class this year, place a check in the blank. If you do not immediately remember having observed it in this class during this year, leave the space blank. Check only those things you personally saw your general business teacher do this year. DO NOT SIGN YOUR NAME.

___ 1. Gave too many tests.

___ 2. Used actual business forms, such as checks, to help students understand the topic.

___ 3. Was too strict.

___ 4. Helped students individually.

___ 5. Had an annoying habit of some kind.

___ 6. Showed favoritism to either boys or girls in the class.

___ 7. Was well prepared for class.

___ 8. Assigned homework and then did not talk about or collect it.

___ 9. Used the overhead projector to show materials about the topic being discussed.

___10. Let students go to the library to get additional information.

___11. Gave tests that were too hard.

___12. Let students express their opinions and ask questions in class.

___13. Gave tests that were too long.

___14. Did not explain thoroughly what we were studying.

___15. Reviewed material well just before a test.

___16. Could not do some of the problems or made mistakes in working them on the board.

___17. Became angry when students did not understand something or asked questions.

___18. Brought in guest speakers.

___19. Did not give any study time in class.

___20. Assigned all the questions and vocabulary at the end of every chapter.

___21. Had pets among the students.

___22. Made the course practical by helping students see how it applies to their lives.

___ 23. Did not make assignments clear.

___ 24. Covered the material too fast.

___ 25. Used the chalkboard to explain problems and to outline lessons.

___ 26. Let some students get by with misbehavior.

___ 27. Took the class on field trips.

___ 28. Did not give much homework.

___ 29. Gave advance notice about anything the class would be doing.

___ 30. Never gave extra credit for work done for the class.

___ 31. Let students work in small groups in class.

___ 32. Did not let students talk to each other in class.

___ 33. Had good class discipline.

___ 34. Used many references and practical examples and ideas to explain points.

___ 35. Gave projects for extra credit.

___ 36. Used films and filmstrips in class.

___ 37. Brought in and had students bring in supplementary materials on the subject.

___ 38. Reviewed homework, assignments, and tests to help students better understand.

___ 39. Never left the room except for emergencies.

___ 40. Gave boring lectures.

___ 41. Bothered students by walking around the room while they worked or took a test.

___ 42. Had a variety of activities so that class did not get dull.

___ 43. Told jokes to relax the class.

___ 44. Gave a reasonable amount of time for students to turn in makeup work.

___ 45. Did not show enough films.

___ 46. Repeated an explanation as many times as needed for students to understand.

___ 47. Gave time in class to study or do homework.

___ 48. Controlled his or her temper very well.

___ 49. Assigned problems that students did not know how to work.

___ 50. Graded fairly.

___ 51. Did not joke with the class.

___ 52. Gave too much work in class--made students work the whole period.

___ 53. Brought too many personal experiences into the class.

___ 54. Let students try to teach some units.

___ 55. Had class discussions which allowed everyone to take part.

___ 56. Was not strict enough.

___ 57. Was pleasant with the students.

___ 58. Gave pop quizzes.

___ 59. Gave tests that were not difficult and that covered only what we had studied.

___ 60. Spent too much time on one subject.

___ 61. Picked on some students too much.

___ 62. Told students what would be on tests and when tests would be given.

___ 63. Gave too much homework.

___ 64. Gave students responsibility for their learning by assigning outside written work.

___ 65. Did not have enough variety in class activities.

___ 66. Talked too much in the class.

___ 67. Explained thoroughly and covered the material well.

___ 68. Became irritated or angry too easily.

BASED ON ALL OF YOUR OBSERVATIONS OF YOUR GENERAL BUSINESS TEACHER'S TEACHING PERFORMANCE, HOW WOULD YOU GRADE HIS OR HER OVERALL TEACHING EFFECTIVENESS? (Check one)

A	B	C	D	F
Excel-lent	Above Average	Average	Below Average	Poor

THANK YOU.

APPENDIX F

TABLE F.1

INEFFECTIVE SPECIMENS, PART I

Teacher Number	Specimen Number																
	1	3	5	6	8	11	13	14	16	17	19	20	21	23	24	26	30
1	3	2	7	8	2	4	0	5	5	3	1	2	10	1	4	5	3
2	2	5	4	5	2	1	2	2	0	12	0	6	4	1	3	1	0
3	1	0	0	7	1	5	2	0	4	1	0	8	11	0	5	5	2
4	11	7	11	4	3	13	12	5	28	6	4	2	3	3	13	11	5
5	9	14	13	11	10	10	8	5	23	4	14	4	12	3	18	5	10
6	2	0	2	4	0	1	0	0	1	0	0	6	0	0	3	6	4
7	1	1	5	2	0	4	4	2	2	2	2	10	2	1	3	3	4
8	0	1	0	4	2	3	5	0	4	0	1	19	4	0	2	1	2
9	2	7	9	5	3	12	6	21	5	9	0	7	6	11	6	10	9
10	2	2	5	3	3	4	3	2	5	0	4	3	10	0	3	3	3
11	12	2	4	2	1	8	14	7	2	4	2	2	4	1	10	11	6
12	3	3	4	2	5	5	5	0	2	2	1	12	1	3	1	4	5
13	2	0	2	3	0	0	0	0	1	0	2	0	3	1	0	2	1
14	4	7	5	2	4	3	6	0	4	2	2	1	3	2	4	0	5
15	2	1	2	3	2	4	2	1	2	1	3	0	2	1	3	1	1
16	7	10	4	12	7	6	4	4	9	8	1	10	9	3	12	8	1
17	2	2	3	4	1	2	3	1	5	2	2	0	7	0	2	1	2
18	5	2	4	3	2	4	2	1	0	3	2	3	3	1	7	2	5
19	16	2	5	7	0	2	4	3	4	8	1	13	9	2	2	8	3

TABLE F.1 (continued)

Teacher Number	Specimen Number																
	1	3	5	6	8	11	13	14	16	17	19	20	21	23	24	26	30
20	2	3	8	4	5	3	8	0	3	1	1	12	6	3	4	5	2
21	0	0	2	6	7	3	0	2	0	0	1	17	5	0	2	3	1
22	2	3	0	3	5	8	1	1	5	0	0	12	3	1	3	10	2
23	5	1	6	7	0	8	6	0	2	3	1	3	9	1	1	13	1
24	5	5	6	8	2	11	1	4	6	2	3	1	6	1	5	8	5
25	2	1	6	4	1	2	2	5	2	0	1	16	0	1	5	5	6
26	6	3	1	9	4	3	2	2	2	2	1	2	11	3	5	8	3
27	2	0	7	15	8	4	0	10	4	1	0	19	14	3	7	10	5
28	9	3	11	14	0	11	7	0	4	1	2	15	12	2	6	12	7
29	1	1	2	3	2	4	2	1	2	7	1	11	2	0	2	0	0
30	2	0	1	6	0	3	2	1	3	0	0	3	3	1	4	2	2

TABLE F.2

INEFFECTIVE SPECIMENS, PART II

Teacher Number	Specimen Number																
	32	40	41	45	49	51	52	53	54	56	58	60	61	63	65	66	68
1	2	7	9	12	7	0	3	0	19	2	17	3	5	1	0	1	1
2	5	5	4	8	4	8	3	1	0	0	4	2	9	1	5	4	12
3	4	0	8	9	7	1	4	1	18	0	18	0	5	3	3	0	1
4	6	17	9	19	19	2	6	4	0	5	24	6	11	5	17	10	6
5	14	24	7	29	14	25	16	10	0	1	12	5	11	13	14	25	2
6	3	3	13	13	2	7	6	0	0	0	4	0	6	0	3	1	0
7	5	2	1	11	3	2	1	0	1	0	15	1	2	1	4	2	4
8	5	2	6	7	7	1	3	0	0	0	25	1	1	5	2	0	1
9	5	6	15	18	12	15	21	4	0	1	6	1	8	0	18	0	9
10	0	3	6	7	6	1	2	4	19	0	18	2	13	3	3	2	4
11	8	12	13	16	9	14	6	1	0	5	10	1	8	4	11	8	8
12	7	1	2	9	6	3	5	3	0	0	6	3	4	3	5	5	1
13	7	3	1	11	3	6	4	0	26	0	7	2	2	2	4	3	0
14	10	4	10	13	3	12	7	1	1	1	7	1	7	5	4	4	5
15	5	3	3	4	2	4	5	1	1	1	10	3	2	1	2	2	2
16	12	5	10	15	15	7	16	4	0	0	22	2	11	11	9	5	7
17	3	5	1	1	2	7	2	1	25	2	9	1	2	2	1	4	2
18	3	6	3	7	3	11	8	2	21	0	9	1	3	3	3	6	6

TABLE F.2 (continued)

Teacher Number	Specimen Number																
	32	40	41	45	49	51	52	53	54	56	58	60	61	63	65	66	68
19	4	6	10	6	6	2	1	1	0	3	27	0	5	4	6	4	5
20	10	11	9	13	3	11	6	4	0	1	9	4	7	4	9	9	5
21	2	8	2	1	0	1	0	2	2	3	14	0	2	2	5	7	0
22	3	5	7	15	9	4	2	3	0	3	21	1	4	1	4	3	2
23	2	3	2	15	5	6	2	1	5	5	12	3	2	1	5	1	1
24	5	9	14	13	5	11	7	4	0	5	20	3	8	4	8	5	6
25	6	1	2	16	6	4	7	0	0	2	2	1	4	4	9	0	2
26	8	3	5	6	4	6	5	2	3	1	21	2	6	2	5	3	6
27	1	6	5	0	6	1	6	5	0	4	5	1	4	9	8	4	2
28	2	10	2	15	11	9	4	3	1	1	17	6	12	5	4	11	1
29	7	5	4	8	4	5	3	3	8	0	18	0	2	2	1	3	1
30	0	5	2	12	5	2	1	3	1	0	18	3	4	3	5	8	1

TABLE F.3

EFFECTIVE SPECIMENS, PART I

Teacher Number	Specimen Number																
	2	4	7	9	10	12	15	18	22	25	27	28	29	31	33	34	35
1	20	20	20	2	7	20	19	12	20	19	0	18	18	18	17	18	2
2	11	5	13	2	9	13	9	2	9	7	0	5	6	10	6	8	14
3	18	19	20	2	0	20	14	6	17	18	0	3	16	12	17	11	15
4	32	26	25	14	16	29	21	33	22	28	21	19	21	8	12	24	18
5	32	22	29	0	0	29	23	20	26	36	0	9	17	10	26	25	3
6	10	25	22	2	1	24	21	8	24	9	1	23	23	9	17	20	1
7	13	17	16	0	12	18	14	6	13	16	0	5	13	9	16	11	7
8	27	24	19	1	1	27	23	3	20	23	8	1	19	1	21	17	8
9	4	19	10	1	0	8	8	7	6	3	0	18	15	11	10	1	0
10	23	19	18	15	1	24	16	1	17	22	0	9	16	10	11	11	2
11	22	20	18	22	8	22	13	20	19	2	0	9	12	11	8	15	4
12	13	13	11	7	3	15	13	10	13	12	0	2	11	0	11	12	2
13	32	30	32	14	31	32	23	32	29	24	0	15	29	26	26	25	24
14	10	13	12	2	1	11	8	7	8	10	1	4	10	8	5	7	6
15	8	14	14	14	12	13	9	13	12	12	0	10	11	11	12	11	10

TABLE F.3 (continued)

Teacher Number	Specimen Number																
	2	4	7	9	10	12	15	18	22	25	27	28	29	31	33	34	35
16	11	22	21	10	3	24	15	3	20	22	0	6	20	3	15	17	19
17	23	16	23	22	19	20	17	23	20	16	17	17	20	25	18	18	5
18	22	16	19	21	0	19	14	23	19	14	17	11	15	23	9	12	6
19	23	19	23	15	12	26	23	1	22	25	0	5	19	18	10	19	10
20	18	16	17	4	8	18	18	3	15	18	0	8	15	0	10	15	15
21	8	10	15	3	10	21	15	3	21	12	0	17	13	2	12	15	4
22	22	24	23	12	14	27	21	1	26	25	0	19	22	10	19	19	11
23	26	23	23	1	15	24	26	12	22	23	1	24	20	5	17	18	11
24	19	20	14	3	22	21	15	10	17	22	1	15	16	6	13	10	13
25	13	22	18	0	2	30	24	1	16	24	0	18	20	11	23	12	1
26	9	23	17	17	4	21	9	24	20	13	0	7	18	7	10	15	16
27	22	24	13	9	13	25	13	28	18	12	20	5	22	18	9	18	9
28	10	13	17	0	3	15	14	4	13	13	0	6	9	0	10	9	0
29	26	21	24	8	16	25	16	16	23	24	17	9	22	25	21	23	21
30	19	22	21	2	18	24	20	22	23	20	0	4	19	9	21	20	14

TABLE F.4

EFFECTIVE SPECIMENS, PART II

Teacher Number	Specimen Number																
	36	37	38	39	42	43	44	46	47	48	50	55	57	59	62	64	67
1	2	13	20	4	10	17	17	18	20	20	14	20	19	18	20	6	20
2	0	14	5	4	1	0	5	5	12	1	7	12	2	11	8	8	7
3	17	17	20	14	6	16	14	16	20	18	17	16	17	16	19	3	17
4	33	29	31	20	8	29	27	23	22	24	26	19	18	21	25	11	20
5	0	8	30	32	2	1	25	17	11	28	28	10	18	23	20	11	23
6	9	5	22	16	3	3	9	22	21	23	24	17	17	19	22	3	19
7	1	13	15	16	7	11	12	15	14	13	17	16	14	11	14	8	15
8	0	24	27	26	9	19	12	22	24	24	22	26	27	23	21	9	24
9	3	2	8	7	0	3	10	12	17	11	9	2	8	10	12	1	3
10	24	16	23	15	9	22	9	17	17	12	19	19	20	17	15	3	18
11	0	22	18	19	3	4	15	14	15	14	17	16	13	13	9	6	12
12	14	12	13	11	7	7	12	13	13	12	12	14	12	10	12	9	13
13	32	28	29	26	17	1	29	31	28	28	26	32	30	30	26	22	31
14	14	12	9	6	5	0	8	9	7	10	12	9	9	8	10	2	8
15	14	13	10	11	9	1	11	9	11	12	12	11	9	9	10	4	13

TABLE F.4 (continued)

Teacher Number	Specimen Number																
	36	37	38	39	42	43	44	46	47	48	50	55	57	59	62	64	67
16	26	19	25	12	5	12	23	18	18	19	22	21	15	22	23	13	17
17	26	22	20	8	14	9	14	17	21	20	20	23	21	19	14	8	18
18	21	20	19	12	15	1	13	17	15	12	18	19	15	17	16	6	18
19	24	21	25	18	9	7	15	26	26	16	24	25	19	24	23	13	22
20	17	18	17	10	?	2	6	14	17	14	12	13	10	18	17	8	15
21	25	24	19	13	6	9	10	12	22	17	20	15	19	17	14	4	16
22	25	17	24	10	7	5	14	26	25	20	25	24	22	23	21	6	26
23	9	18	24	18	6	8	19	22	23	23	25	22	21	23	20	7	24
24	3	19	18	10	7	2	16	13	18	18	18	16	17	17	14	12	14
25	0	1	20	0	5	9	23	25	30	25	24	13	27	24	28	3	23
26	15	8	16	14	5	0	14	13	21	17	18	17	18	16	13	6	13
27	29	19	21	2	12	14	17	14	23	19	17	24	19	16	15	9	12
28	18	0	18	17	2	4	15	12	18	16	18	13	12	12	14	4	17
29	23	25	24	12	14	7	18	20	24	18	19	20	19	18	20	16	22
30	9	19	24	15	7	6	20	21	23	20	23	17	18	18	18	6	19

APPENDIX G

TABLE G.1

TOTAL EFFECTIVE, INEFFECTIVE, AND OVERALL SCORES ASSIGNED TO THIRTY TEACHERS BY GENERAL BUSINESS STUDENTS ON PERFORMANCE SPECIMEN CHECKLIST

Teacher No.	Total E Score (Effective)	Total I Score (Ineffective)	Total Overall Score
1	508	154	87
2	231	125	46
3	471	134	79
4	755	307	118
5	594	395	128
6	494	90	108
7	398	103	70
8	582	114	121
9	239	267	64
10	490	148	100
11	435	226	75
12	344	121	56
13	870	98	145
14	261	149	54
15	355	82	58
16	541	266	94
17	613	109	107
18	514	144	79
19	607	179	113
20	408	185	69

TABLE G.1 (continued)

Teacher No.	Total E Score (Effective)	Total I Score (Ineffective)	Total Overall Score
21	143	100	96
22	616	146	110
23	603	138	88
24	469	206	82
25	524	119	111
26	454	155	80
27	560	176	100
28	346	230	62
29	656	114	108
30	561	106	95